GUAM DIVISION OF AQUATIC AND WILDLIFE RESOURCES

ANNUAL PERFORMANCE REPORTS

FY 2009

3/31/2010

Division of Aquatic and Wildlife Resources
Department of Agriculture
163 Dairy Road,
Mangilao, Guam 96913
671-735-3955/6

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Guam Fish and Wildlife Coordination
FY 2009
FW-3-C-17

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: FW-3-C-17

Grant name: Guam Fish and Wildlife Coordination

Project number and name: C-1, Job 1. Coordination of Guam's Fish and Wildlife Programs

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	Budgeted	Actual ___or Estimated_X_
Federal:	$163,548	$118,139.99
State		
Other:		
_____		
_____		
Total Federal:	$163,548	$118,139.99
Total match		
Total project:	$163,548	$118,139.99

5. Objectives:

To plan, coordinate, supervise, and administer all Sport Fish and Wildlife Restoration Programs during the granting period.

6. **If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.** N/A

7. **Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.**

The objectives were met by the following:

1. The Chief and Assistant Chief insured the attendance of staff at meetings focused on natural resource issues, planned and documented activities pertaining to fish and wildlife programs. The Chief of DAWR and his personnel represented the Department of Agriculture with the following duties: 1) All regulatory matter relating to fish and wildlife resources. This frequently entailed meeting with other local and federal agencies, including the US Navy and Air Force; 2) Administration and coordination responsibilities, which are 50% contributed by local funds;

2. Staff was tasked with submitting documents including grant proposals, grant agreements, and performance reports pertaining to all funding sources. The documentation included annual Grant Agreements for 1) Project FW-3C, Guam Fish and Wildlife Coordination, which is jointly funded by Wildlife and Sport Fish Restoration Funds; 2) Project F-1-R, Guam Sport Fish Investigation, which covers sport fish research, surveys, and related activities funded by Sport Fisheries (DJ) funding; and 3) W-1-R, Guam Wildlife Investigations and survey activity. In addition, annual Grant Agreements were prepared for the Division's various Fisheries Development and Endangered Species Recovery (Section 6) projects. The State Wildlife Grants were extended and/or obligated to fund wildlife projects, as well as for other federal assistance grants that required it. The grants included T-3-R, T-4-M, T-5-HM, T-6-R, and T-2-1.

3. Technical Review of draft environmental impact statements, environmental assessments, etc., were conducted by staff as these documents were made available.

4. Wildlife: Wildlife Staff trips under Wildlife Restoration were made to Rota from Guam as part of the Guam rail experimental population work. A biologist attended the 2009 Basics Grants workshop in Honolulu, Hawaii.

5. Fisheries: Fisheries Staff attended various meetings including: the Coral Reef Ecosystem Plan Team Meeting was on Guam in May 2009, Pelagic Plan Team Meeting in Honolulu Hawaii April 2009, and Bottomfish Plan Team Meeting on Guam, sponsored by the Western Pacific Fisheries Management Council.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. If you did work under this grant that was not captured in the discussion above or if you were unable to accomplish some of the work anticipated in the granting documents, please explain the differences in approach, results, and costs.

9. List any publications or in-house reports resulting from this work. Provide citations, including status (indicate if not completed), note any that are included with this report, and note where reports or publications may be obtained.

Name, title, phone number, and e-mail address of person compiling this report:

Celestino F. Aguon, Chief, 671-735-3979, tino_aguon@hotmail.com, and Jay T. Gutierrez, Assistant Chief, 671-735-3980, jaytgutierrez@yahoo.com

SPORT FISH RESTORATION
FY 2009
F-1-R-14

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Territory of Guam

Grant number: F-1-R-14

Grant name: Guam Sport Fish Investigations

Project number and name: F-1-R-14: Guam Fisheries Development Construction of Fisheries Office Building

Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended March 31, 2010]

3. Location of work: Guam:

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated'.

Source	Budgeted	Actual X__or Estimated__
Federal : Sport Fish Restoration	$1,062,334.27	$192
State	-0-	
Other:_____	-0-	
_____		
_____		
Total Federal	$1,062,334.27	$192
Total match	-0-	
Total project:	$1,062,334.27	$192

5. Objectives:

a. GDAWR will develop a Scope of Work based on the draft Fisheries office and warehouse with a wet laboratory design by August 31, 2007.

b. GDAWR will develop a Scope of Work to design a 50KVA diesel generator with housing to be installed adjacent to the fisheries office by August 31, 2007 to provide reliable power supply to the Fisheries office during Guam's frequent power outages because of generator shutdowns or repairs by the Guam Power Authority, storms, earthquakes, and other adverse conditions.

c. After GDAWR completes the environmental assessment (EA) and the expected finding of no significant impact (FONSI) is determined, a work request will be sent to the Department of Public Works to bid out the project.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

On February 20, 2009 a Bid Opening was held at the Department of Public Works Office to award the contract to construct the new Fisheries Building with additive 1 (auxiliary power) and additive 2 (parking lot). P.E. Construction submitted the lowest bid of $934,558.00. Because the actual cost to construct the building and its additives, and the estimated cost of $127,180.83 to furnish the building was more than the total budget of approximately $884,000.00 for the building, a revised budget to account for the increase $177,000.00 was requested and approved by the U.S. Fish and Wildlife Service.

Meetings with Department of Public Works GDAWR, Contractors and Sub Contractors have been ongoing to determine the best floor plans and designs suitable for GDAWR's needs and surrounding environment. Final plans are pending approval of a cost increase relative to the Guam Common Construction Prevailing Wage Rates effective September 29, 2009, increases in cost with local material suppliers requested by the contractor, and concurred by engineers at the Department of Public Works Guam. This increase is within budget and should not delay progress. However, upon approval, the final contract will make its routing process to all signatory agencies, which could take weeks. Additionally, this increase may affect the plans to procure furniture because some of the now allocated towards the building. A requisition and scope of work will be submitted to the General Services Agency, Guam in FY10 for the Bidding process to identify a supplier.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. N/A

9. List any publications or in-house reports resulting from this work. N/A

Name, title, phone number, and e-mail address of person(s) compiling this report:
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SPORT FISH RESTORATION
FY 2009
F-1-R-16

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources
FY 2009

1. State: Territory of Guam

Grant number: F-1-R-16

Grant name: Guam Sport Fish Investigations

Project number and name: Project 1. Management of Guam's Marine Fisheries Resources. Job 1. Offshore Fisheries Participation, Effort, and Harvest Surveys

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Island of Guam

Source	**Budgeted**	**Actual __X__ or Estimated____**
Federal :_____	$93,901	$??
State	- 0 -	- 0 -
Other:_____	- 0 -	- 0 -
_____		
_____		
Total Federal	$93,901	$
Total match	- 0 -	- 0 -
Total project:	$93,901	$

4. Costs:

5. Objectives:

a. To monitor the health of Guam's reef, bottom, and pelagic fishery resource by conducting 192 offshore surveys each year at the three largest boatlaunching facilities on island.

b. To continue gathering limited biological data that will add to a long-term historical database on Guam's fish species by conducting 192 offshore surveys over a one-year period at the three heaviest used public boat launching facilities on island.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

GDAWR's Fisheries Section, conducted 192 offshore surveys (96 survey days with an AM and PM shift) including offshore creel surveys at the Agana Boat Basin (four a month), the Agat Marina (twice a month), and the Merizo Pier (twice a month), as well as participation surveys conducted four (4) times a month around the entire island to obtain data on islandwide boat based activity. All surveys were conducted, with no surveys missed during the fiscal year. To ensure adequate coverage, fisheries staff was doubled for weekend surveys at the Agana Boat Basin and Agat Marina to ensure that the maximum number of interviews was obtained. This data is expanded to estimate the amount of fish harvested by boat-based methods and to identify trends in the fishery.

The survey encountered 431 unique boats during creel surveys, fishing, with an estimated 580 boats island wide involved in boat-based fishing during FY09, 14% higher than the estimated 510 boats in FY08. Trolling and Bottom fishing dominated the boat-based surveys, with 314 unique boats engaged in trolling with an island wide estimate of 431 boats and 178 boats engaged in bottom fishing with an island wide estimate of 326 bottom fishing boats. A total of 51 boats were intercepted engaging in snorkel spear fishing, while 17 unique boats were encountered engaging in SCUBA spear fishing.

The number of intercepts per boat-based methods compared with FY08 is as follows: Trolling: 536 interviews up from 373; Bottom fishing: 130 interviews up from 96; snorkel spear fishing: 27 interviews up from 24; SCUBA spear fishing: 2 interviews down from 5 in FY08; Jigging: 2 interviews down from 12; and Gillnetting: 8 interviews down from 9. Trolling is the most intercepted boat-based method since the creel survey time coincides with the departure and return time for the vast majority of trailered boaters engaged in this method. Charter fishing boats, too, are easily intercepted and have established a friendly relationship with fishery staff conducting surveys. Bottom fishing and snorkel spear fishing, on the other hand, can be difficult to survey their catch if the fish are packed in ice. Fishing methods such as overnight bottom fishing and SCUBA spear fishing are difficult to intercept since their return time often occurs past midnight.

During FY09, GDAWR was criticized, with various GDAWR fishery issues, such as fisheries management and GDAWR projects, and enforcement of local fishery laws having resulted in a number of interview refusals. In addition, most SCUBA spear fishers still consistently return after midnight, reducing the number of intercepts for this method. This appears to be a deliberate attempt to avoid their catch being surveyed for fishery data. However, an increase in interview refusals has been observed in FY09 with boat-based fishers. FY09 saw an increase in activist groups protesting local fishery management laws, with a proposed bill to allow only indigenous fishers access to all public fishing grounds, including marine preserves. The bill, however, did not make it out of legislative committee.

Table 1 below summarizes the total boat-based harvest for FY09 and total harvests for the top five (5) boat-based methods. Comparing between the FY08 and FY09 harvest values, FY09 harvest values all increased compared with FY08. Total Harvest increased 28%, trolling increased 38%, bottom fishing increased a 55%, SCUBA spearing increased 68%, snorkel spearing increased 16%, and gillnetting increased 350%. SCUBA spearing and gillnetting intercepts to obtain participation, effort, and catch data remains elusive and difficult to obtain an adequate number of interviews. Therefore, the significant increases may be a reflection of over- or under-expansion, where total catch is determined from the catch from a relatively few number of interviews multiplied by a relatively high number of expanded trips.

Table 1: Five-Year Harvest Totals for Top Five (5) Boat-Based Methods

Year	Total Harvest (metric tons)	Trolling (metric tons)	Bottomfishing (metric tons)	SCUBA Spearfishing (metric tons)	Snorkel Spearfishing (metric tons)	Gillnet (metric tons)
2005	220.4	165.4	29.7	12.8	6.1	4.6
2006	291.2	227.1	47.0	4.8	7.7	2.3
2007	303.1	246.6	25.6	12.3	8.6	7.0
2008	288.4	197.0	25.9	11.4	11.6	3.2
2009	370.3	272.1	40.1	19.1	13.4	14.4
5-year Average	294.7	221.6	33.7	12.1	9.5	6.3

Table 2 shows the five-year trends with CPUE with the six most commonly encountered methods. Comparing FY08 and FY09 CPUE values, trolling increased 38%, bottom fishing increased 55%, SCUBA spearing increased 68%, snorkel-spearing increased 16%, jigging increased 16%, and gillnetting increased 350%. Gillnetting showed the greatest decrease in CPUE, less than half of the 5-year average. Interviews and catch disposition of methods other than trolling may need to be intercepted more often in order to obtain CPUE values having smaller confidence intervals.

Table 2: Five (5) Year Average CPUE for Boat-Based Methods

Year	Trolling CPUE (kg/gear-hour)	Bottomfishing CPUE (kg/gear-hour)	SCUBA Spearfishing CPUE(kg/gear-hour)	Snorkel Spearfishing CPUE (kg/gear-hour)	Jigging CPUE (kg/gear-hour)	Gillnet CPUE (kg/gear-hour)
2005	1.61	0.69	3.32	1.24	0.76	6.27
2006	1.97	0.87	2.01	1.22	1.10	5.80
2007	2.43	0.82	7.47	1.73	1.1	5.7
2008	1.86	0.68	3.39	1.63	1.41	2.26
2009	1.66	0.66	7.47	1.39	1.10	8.53
5-year Average	1.91	0.74	4.73	1.44	1.09	5.71

During FY08, trolling was dominated by skipjack tuna (*Katsuwonas pelamis*) with 115 metric tons (mt). Bottomfishing was dominated by onaga (*Etelis coruscans*), 3.9 mt and dogtooth tuna (*Gymnosarda unicolor*), 1.9 mt. Data from FY07 and FY08 seem to indicate that deepwater bottom fish species are overtaking shallow bottomfish species in total harvest. For spearfishing, both SCUBA spearfishing and snorkel spearfishing were dominated by the bluespine unicornfish (*Naso unicornis*), 1.1 mt and 0.9 mt respectively.

Some funding, technical support, hardware and software, and travel opportunities were provided by the Western Pacific Fishery Management Council and the Pacific Fishery Science Center. However, the bulk of the funding for the Offshore Creel Program is provided through Federal Aid.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. N/A

9. List any publications or in-house reports resulting from this work.

a. Guam. Bottomfish and Seamount Groundfish Fisheries of the Western Pacific Region, 2008 Annual Report. Western Pacific Regional Fishery Management Council. Honolulu, Hawaii.
b. Guam. Pelagic Fisheries of the Western Pacific Region, 2008 Annual Report. Western Pacific Regional Fishery Management Council. Honolulu, Hawaii.
c. Caguin, R., Gutierrez J. "Coral Reef Plan Team Report" in Guam Module, Coral Reef Ecosystem Plan Team Annual Report, 2008. Western Pacific Regional Management Council, Honolulu, HI.

Name, title, phone number, and e-mail address of person compiling this report: This report was prepared by Thomas Flores, Jr. Fisheries Biologist III, Telephone number (671) 735-4033, E-mail thomaspfloresjr@yahoo.com and Jay Gutierrez, Assistant Chief, Telephone (671) 735-3980, E-mail jaytgutierrez@yahoo.com.

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-1-R-16
Grant name: Guam Sport Fish Investigations

Project number and name: Project 1. Management of Guam's Marine Fisheries Resources. Job 2. Inshore Fisheries Participation, Effort, and Harvest Surveys

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31,2010]

3. Location of work: Guam, Island-Wide

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated".

Source	**Budgeted**	**Actual _X_ or Estimated___**
Federal : Sport Fish Restoration	$120,879	$??
State	-0-	- 0 -
Other:_____	-0-	- 0 -
_____		
_____		
Total Federal	$120,879	
Total match	-0-	-0-
Total project:	$120,879	

5. Objectives:

a. To monitor the health of Guam's reef and bottom fishery resource by conducting 192 inshore surveys each year along the coastline of Guam.
b. To continue gathering limited biological data that will add to a long-term historical data base on Guam's fish species by conducting 192 inshore surveys each year along the coastline of Guam.
c. To monitor the health of Guam's reef and bottom fishery resource by conducting 24 aerial surveys each year along the coastline of Guam.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

The project is part of the ongoing collaborative efforts between GDAWR, the Western Pacific Regional Fishery Management Council, and the Pacific Fishery Science Center to combine the inshore and offshore creel data to enable more appropriate and accurate fishery data summaries and interpretation. Some funding, technical support, hardware and software, and travel opportunities were provided by the Western Pacific Fishery Management Council and the Pacific Fishery Science Center. However, the majority of the funding for the Inshore Creel Program is provided through Federal Assistance.

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Inshore Surveys

A total of 192 inshore creel and participation surveys (96 creel surveys and 96 participation surveys) were conducted along Guam's shoreline during FY09. A total of 282.6 metric tons (mt) was harvested by shore-based methods in FY09. This is a significant increase of 685% compared with 41.2 mt harvested in FY08. This significant increase was due to approximately 226 mt of juvenile rabbitfish caught by shoreline castnetters. Castnetters in 2008 had no significant catch of any juveniles, only harvesting 4.6 mt of fish. Catch per Unit Effort (CPUE) for most of the major shore-based methods varied between methods. CPUE for snorkel spear fishing decreased slightly between FY08 and FY09, from 0.73 kg/gear-hour to 0.67 kg/gear-hour. CPUE for castnetting increased 3,800% from 0.17 kg/gear-hour in FY08 to 6.5 kg/gear-hour in FY09. Hook-and-line increased 45% from 0.11 kg/gear-hour in FY08 to 0.16 kg/gear-hour in FY09. Gillnetting CPUE decreased 16% from 0.91 kg/gear-hour in FY08 to 0.76 kg/gear-hour in FY09.

The number of intercepts or interviews for the most common shore-based methods encountered in FY09 were 245 for Hook and Line (compared with 166 in FY08), 59 for Castnetting (compared with 58 in FY08), 13 for Gillnetting (compared with 16 in FY08), 5 for shore-based snorkel spearing (compared with 6 in FY08), and 4 for Hooks and Gaffs (identical for FY08). There were no intercepts for Surround Netting and shore-based SCUBA spearing in FY09.

Table 1: Summary of Top Seven (7) Shore-Based Fish Species Caught by Method

Species	Hook and Line (kg)	Castnet (kg)	Gillnet (kg)	Snorkel Spear (kg)	Surround Net (kg)	Other	Total (kg)
Juvenile rabbitfish*(Siganus sp.)* or manahak		225,909					225,909
Selar crumenophthalmus, Mackerel scad	15,187		6				15,193
Juvenile trevally *(Caranx sp.*), i'e	3,505	3,087	135		7	8	6,742
Ellochelon vaigiensis, squaretail mullet	71	139	3,129	31		14	3,385
Naso unicornis, Bluespine unicornfish		2,247	63	848	89		3,248
Siganus spinus, Rabbitfish	399	869	151	334	1,387	7	3,149
Acanthurus triostegus, convict tang	127	2,139	218	218	314	1	3,018

Table 1 summarizes the top seven (7) species harvested during FY09 by shore-based methods. The top two species were juvenile rabbitfish (226.0 mt) and the mackerel scad or atulai (15.2 mt). Both fish are harvested as pulse fisheries, with FY09 either exhibiting an unusually high recruitment of juvenile rabbitfish and mackerel scad and/or more intercepts of these pulse fisheries by fisheries staff. Juvenile trevally and the squaretail mullet followed with 6.7 mt and 3.4 mt respectively. Juvenile trevally, like rabbitfish, are caught both as juveniles as a pulse fishery or as adults. The bluespine unicornfish, scribbled rabbitfish, and the convict tang made up the remainder of the top seven (7) species with 3.2 mt, 3.1 mt, and 3.0 mt. Large species of fish, such as parrotfish, groupers, and snappers, did not make the top shore-based species harvested.

Aerial Surveys

A total of 22 aerial surveys were conducted during FY09. One weekday and one weekend aerial survey was cancelled in February 09 and July 09. The hook-and-method was observed more frequently than other methods during the aerial surveys: 598 hook-and-line fishers observed out of a total of 1,016, or 59% of shore-based fishing methods, followed by 123 castnetters, or 12% of shore-based methods, then 112 snorkel spear fishers, or 11% of shore-based fishing methods. A total of 764 marine animals were observed during FY09, a decrease of <1% from the 761 marine animals observed during FY08. Turtles comprised 89% of all animals observed, with 679 individuals observed. In addition, 76 dolphins, 4 manta rays, 4 sharks, and a single stingray were observed. Turtle observations were highest during the months of December (122) and April (91), with dolphins observed primarily during September (35).

9. List any publications or in-house reports resulting from this work.

a. Flores, T. "Bottomfish Plan Team Report" in Guam Module, Bottomfish Plan Team Annual Report, 2008. Western Pacific Regional Management Council. Honolulu, HI.
b. Flores, T., Tibbatts, R. "Pelagic Plan Team Report in Guam Module, Pelagic Plan Team Annual Report, 2008. Western Pacific Regional Management Council, Honolulu, HI.
c. Hamm, D., Chan, N., Graham, C. Fishery Statistics of the Western Pacific, Volume 22. Pacific Islands Fisheries Science Center, July 2008.
d. Caguin, R., Gutierrez J. "Coral Reef Plan Team Report" in Guam Module, Coral Reef Ecosystem Plan Team Annual Report, 2008. Western Pacific Regional Management Council, Honolulu, HI.

Name, title, phone number, and e-mail address of person compiling this report:

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Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-1-R-16

Grant name: Guam Sport Fish Investigations

Project number and name: Project 1. Management of Guam's Fisheries Resources. Job 3. Inshore Kids Fishing Derby

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009**[**Extended to March 31, 2010]

3. Location of work: Island of Guam

4. Costs:

Source	Budgeted	Actual _X__ or Estimated____
Federal :_____	$29,222	$
State		
Other:_____		
_____		
_____		
Total Federal	$29,222	$
Total match		
Total project:	$29,222	$

5. Objectives:

1. To teach sport fishing, provide young fishers with a positive fishing experience, and foster in them a conservation and management ethic, which will be determined through evaluation forms, by hosting two kid's fishing derbies each year for up to 75 participants per derby event at an appropriate site along the coastline of Guam.

2. To provide an opportunity for parents and children to learn about and practice basic fishing skills including knot-tying and casting by participating in the Department's fishing derbies and clinics that are held twice each year.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met.

This year two derbies were held; the first on July 11th, and the second on August 22, 2009. A total of 39 children competed in the derby on July 11th, and caught a total of 93 fish. Weather conditions were fair, with some short rain showers, but generally ok. Water conditions were flat and suitable for the derbies.

On August 22 derby, 39 children competed, and caught a total of 142 fish. This was a record for the most fish caught during a single day of the kids fishing derbies. Weather conditions were good, overcast, but no rain and little wind. The water was a bit choppy

Prior to the derbies, two workshops were held for kids who were registered but didn't know how to fish or needed practice. The first workshop was held on Saturday, June 27, and the second was held on Saturday, August 15. The workshops were attended by 6 kids each day. All participants were given evaluation forms, and asked to provide comments and suggestions for the Kids Derby. A total of 35 evaluation forms were returned to DAWR staff, 17 on July 11, and 18 on August 22.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. N/A

9. List any publications or in-house reports resulting from this work. None

Name, title, phone number, and e-mail address of person compiling this report: This report was prepared by R. Brent Tibbatts, Fisheries Biologist II, (671) 735-3987, email-brent.tibbatts@gmail.com

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-1-R-16

Grant name: Guam Sport Fish Investigations

Project number and name: Project 2. Management of Guam's Fisheries Resources. Job 1. Freshwater monitoring Program.

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. **Location of work:** Island of Guam

4. **Costs:** Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated".

Source	Budgeted	Actual _X__or Estimated____
Federal :_____	$39,471.00	$
State		
Other:_____		
_____		
_____		
Total Federal	$39,471.00	$
Total match		
Total project:	$39,471.00	$

5. Objectives:

a. To monitor the freshwater fishery resource by surveying seven streams in three watersheds each year for analysis and comparison between watersheds by using appropriate parametric and non-parametric tests.
b. Conduct surveys of Guam's freshwater resources (rivers, caves sinkholes, reservoirs) to identify Guam's freshwater biological resources.
c. Create a database showing the distribution and relative abundance of Guam's freshwater biological resources.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met.

Surveys were conducted in seven streams to determine the effect a dam has on tropical river fauna. In order to determine species composition, organism density, and habitat characteristics, visual surveys and physical data collections were conducted in randomly chosen quadrats, in both experimental (impacted by the dam) and control (not affected by the dam) rivers. Data was entered into a spreadsheet so statistical analyses can be performed to compare data between experimental and control sites and within baseline data collected in FY97.

DAWR heightened public awareness of native freshwater species to increase public interest in maintaining healthy freshwater ecosystems. Distributing flyers, and posters of the freshwater fauna of Guam to various schools and civic groups, as well as, conducting presentations to groups of school children about the freshwater fauna of Guam accomplished this.

Several rivers in which the freshwater fauna was unknown were surveyed, and the data collected and entered into a database. The goal of this survey is to produce a comprehensive inventory of Guam's freshwater biological resources, and to provide a baseline for future environmental work in the rivers. New biological data was collected from two rivers and one wetland in 2009.

The report provides a brief summary of the freshwater fishery projects for Guam in FY 09. A much more thorough report will be completed by the Division of Aquatic and Wildlife Resources.

8. **Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.** N/A

9. **List any publications or in-house reports resulting from this work. None**

Name, title, phone number, and e-mail address of person compiling this report:
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Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-1-R-16

Grant name: Guam Sport Fish Investigations

Project number and name: Project 2. Management of Guam's Freshwater Fisheries Resources. Job 2. Fisheries Studies in Fena Lake

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Island of Guam

4. Costs:

Source	Budgeted	Actual _X__or Estimated____
Federal :_____	$2,055	$??
State		
Other:_____		
_____		
_____		
Total Federal	$2,055	$
Total match		-
Total project:	$2,055	$

5. Objectives:

Monitor the freshwater fishery in Fena Reservoir by conducting a stock assessment, using electrofishing and mark-recapture methodology to determine species density, and other environmental parameters.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. Work on this project was not completed in 2009 because of ongoing access issues with the Navy.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. N/A

9. List any publications or in-house reports resulting from this work. None

Name, title, phone number, and e-mail address of person compiling this report: This report was prepared by R. Brent Tibbatts. Fisheries Biologist II, (671)735-3987. E-mail- brent.tibbatts@gmail.com

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-1-R-16

Grant name: Guam Sport Fish Investigations

Project number and name: Project 3. Technical Assistance. Job 1. Technical Assistance to Activities Affecting Guam's Fisheries Resources

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [Extended to March 31, 2010]

3. Location of work: Guam: Island-wide

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	Budgeted	Actual __X_ or Estimated___
Federal :	$55,913	$
State		
Other:_____	-0-	
_____		
_____		
Total Federal	$55,913	$
Total match		
Total project:	$55,913	$

5. Objectives:

To provide technical advice and assistance on Guam's fisheries resources and related issues to the public, the private sector, and local and federal government agencies, as needed over a one year period, through testimony, written comments, attendance at meetings, and assistance on projects or programs.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

During FY09, the Fisheries Section reviewed an estimated number of sixty (60) project proposals, including developmental plans, environmental assessments, environmental impact statements, and permit applications. Fisheries Staff attended approximately seventy-five (75) meetings and made approximately fifty (50) field inspections to review these proposals. Fisheries personnel maintained good working relationships with the Department of Land Management, Department of Parks and Recreation, Guam Bureau of Statistics and Plans, Guam Environmental Protection Agency, Guam Hotel & Restaurant Association, Guam Visitor's Bureau, University of Guam, U.S. Army Corps of Engineers (ACOE), National Park Service, U.S. Fish and Wildlife Service, Western Pacific Regional Fisheries Management Council, National Marine Fisheries Service, Natural Resources Conservation Service, U.S. Navy, U.S. Coast Guard, and U.S. Air Force regarding matters of environmental concern.

Various Fisheries staff actively served as members of the following groups: Western Pacific Regional Pelagic Plan Monitoring Team, Western Pacific Regional Bottomfish Plan Monitoring Team, Western Pacific Regional Coral Reef Ecosystem Plan Monitoring Team, Guam Coral Reef Initiative Advisory Group, Mitigation Working Group, Marine Preserve Eco-permitting Working Group, Guam Seashore Reserve Working Group, and international fishery organizations such as the Secretariat of the Pacific and FAO.

The Fisheries Section also provided the following technical assistance in FY 09:

1. Technical support to the Agricultural Development Services (ADS), which represents the Department and the Division on the Application Review Committee (ARC), to review applications for rezoning, variances, and various types of development as they pertain to fisheries concerns.
2. Provided comments to projects proposals conducted by the University of Guam's Marine Laboratory.
3. Information to the Western Pacific Regional Fisheries Management Council (WESPAC) and the Plan Monitoring Team (PMT) on projects for bottomfish, pelagic fisheries and coral reefs.
4. Provided recommendations to the Guam Seashore Reserve Plan, which would help protect Guam's resources from various developmental activities.
5. Responses to requests for information on bills and laws and regulations pertaining to fish, endangered species, fishing and importation of fish.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. N/A

9. List any publications or in-house reports resulting from this work. N/A

Name, title, phone number, and e-mail address of person compiling this report:
R. Brent Tibbatts, Fisheries Biologist II, (671) 735-3987, brent.tibbatts@gmail.com

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-1-R-16

Grant name: Guam Sport Fish Investigations

Project number and name: Project 4. Biological Surveys. Job 1. Visual Stock Assessment Surveys of Marine Preserves and Control Sites

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Achang Marine Preserve, Piti Bomb Holes Marine Preserve, Asan Bay, and the backside of Cocos lagoon

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	Budgeted	Actual ___or Estimated_X_
Federal :	$16,779	$
State		
Other:_____		
_____		
_____		
Total Federal	$16,779	$
Total match		
Total project:	$16,779	$

1. **Objectives:**

a. To evaluate the effect on sport fish populations caused by the creation of five marine preserves where fishing is restricted or prohibited by conducting fish counts and timed-swim counts on at least 16 permanent transects located in reef flat and lagoon habitats in Achang Reef Flat Marine Preserve, Piti Bomb Holes Marine Preserve, Asan Bay, Pago Bay, and Cocos Lagoon, over a one year period.

b. To evaluate the effect on sport fish populations caused by the creation of five marine preserves where fishing is restricted or prohibited by conducting fish counts and timed-swim counts on at least 16 permanent transects located at the 20', 30', 40', and 50' depth contours of the fore reef slopes in Achang Reef Flat Marine Preserve, Piti Bomb Holes Marine Preserve, Asan Bay, and the backside of Cocos lagoon, over a one year period.

c. To evaluate the effect on sport fish populations caused by the creation of five marine preserves where fishing is restricted or prohibited by conducting video-transects/quadrats on 16 transects located on the fore reef slope of Piti Bomb Holes Marine Preserve and Asan Bay.

d. To assess Tumon Bay Marine Preserve and an appropriate control site to determine transect locations and conduct fish counts and timed-swim counts on 32 permanent transects over a one year period.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

The Department was unable to conduct any surveys within the marine preserves because the Marine Preserve Area (MPA) coordinator was not hired. In FY09, announcements for the position were sent out to the University of Guam Marine Laboratory, coral list server, and fisheries list server to hire a coordinator through a limited term appointment. Several potential applicants sent in applications including one individual from the marine Laboratory. The individual later declined the position to stay on at the marine laboratory. Because it was near the end of the fiscal year and the Bureau of Budget and Management would not certify for the position until a new grant was approved, the Department of Agriculture decided to wait until next fiscal year when a new grant was approved.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

See #7 above.

9. List any publications or in-house reports resulting from this work.

Name, title, phone number, and e-mail address of person compiling this report:
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Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Territory of Guam

Grant number: F-1-R-16

Grant name: Guam Sport Fish Investigations

Project number and name: Project 6. Guam Sports Fish Aquatic Education. Job 1. Printing, Development, And Distribution Of Fisheries Posters, Brochures, Marine Preserve Public Service Announcements, And Educational Outreach Items.

2. Report Period: October 1, 2008 to September 30, 2009.

Report due date: December 31, 2009 [extended to March 31, 2010]

3. Location of work: Guam: Island wide

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	Budgeted	Actual ___or Estimated _X__
Federal : Sport Fish Restoration	$48,619	$58,301.55
State		
Other:_____		
_____		
_____		
Total Federal	$48,619	$58,301.55
Total match		
Total project:	$48,619	$58,301.55

5. Objectives:

a. On an annual basis, as needed, obtain a purchase order to print 5000 (ea) of the multi-lingual pelagic and food fish posters by December 2008 and distribute to the public to increase communication and knowledge of Guam's aquatic resources amongst the different language speakers.
b. On an annual basis, as needed, obtain a purchase order to print 2500 (ea) of the freshwater posters by December 2008 and distribute to the public to increase communication and knowledge of Guam's freshwater resources.
c. On an annual basis, as needed, obtain a purchase order to print 2500 (ea) of the marine preserve posters and brochures by January 2009 and distribute to the public to increase communication and knowledge of Guam's marine preserves.

d. On an annual basis, as needed, obtain a purchase order to print up to 1000 (ea) of "Help Save Guam's Reefs" on pencils, pens, stickers, pins, badges, and hats by December 2008 and distribute to the public as incentives at presentations, lectures, and events to increase communication and knowledge of Guam's marine resources. DAWR will also have a question and answer session, and those individuals who answer a question correctly will receive the outreach items.
e. Research concept for public service announcements (PSAs) of Guam's marine preserves to provide educational information and messages about Guam's marine preserves based on input from various agencies and groups by January 2008.
f. Contract and work with video graphics company to research the concept and develop public service announcements (PSAs) for Guam's marine preserves by January 2009 to increase education and awareness of the preserves.
g. Contract television station to air two or more of the marine preserve public service announcements by July 2009.
h. Digitize poster and brochure files for future use.
i. Distribute other fisheries posters as they become available to further the knowledge pertaining to aquatic resources of Guam.
j. On an annual basis, obtain a purchase order by August 2009 to print 6,000 (ea) of the 2009 marine preserve calendars and distribute to the public to increase communication and knowledge of Guam's aquatic, freshwater, and marine preserve resources.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

The following objectives were met by the following activities during FY09: 1) Distribution of six thousand (6,000) color posters on the reef and pelagic fishes of Guam, 2) The development and production of six thousand (6,000) copies of a 2008 wall fish calendar, 3) Digital files for fish posters were located and archived at GDAWR, and 4) The freshwater poster project is at the Raw digital, stage, awaiting cost pricing for graphics artwork and printing.

The Sport Fish Restoration Program provided the funds for the development and production of the posters. Four thousand fish posters were reprinted for 2009 distribution. The fish posters were made available and distributed to the public, especially to fishermen during inshore and offshore creel surveys.

The calendars featured twelve (12) reef fish photographed in Guam's Marine Preserves. Tidal charts were included. These calendars were distributed to fishermen during inshore and offshore surveys, the public upon request at the main office, village mayors, senators, science teachers, marine preserve stakeholders, Guam fisherman's co-op, and other interested members of the public upon request at the Division's office.

Several of the other objectives were not met this fiscal year because of time constraints. They included: 1) marine preserve posters and brochures were not completed, 2) The ordering of fisheries related conservation items for public distribution at lectures, presentations and other

venues, were not completed in this fiscal, and 3) although freshwater fish artwork was recorded digitally into files, posters were not produced.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. N/A

9. List any publications or in-house reports resulting from this work. N/A

Name, title, phone number, and e-mail address of person compiling this report:
Mitchell Warner, Resource, Education, and Information Officer, (671) 735-3955, mpw61145@hotmail.com.

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Territory of Guam

Grant number: F-1-R-16

Grant name: Guam Sport Fish Investigations

Project number and name: Project 6. Guam Sports Fish Aquatic Education. Job 2: Produce posters and brochures illustrating: land events as they affect Guam's Coastal waters, reef and fisheries; life cycle of five common reef fishes; and reef fish functional group.

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [extended to March 31, 2010]

3. Location of work: Guam: Island wide

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	Budgeted	Actual ___or Estimated_X__
Federal : Sport Fish Restoration	$21,219	$9009.04
State		
Other:_____		
_____		
Total Federal	$21,219	$9009.04
Total match		
Total project:	$21,219	$9009.04

5. **Objectives:**

a. During the first year, research and develop the concept of the erosion-reef and reef fish life cycle poster, and functional group brochure based on input from various agencies and groups. Assemble and archive the poster and brochure elements and produce text, line-art and photographs.

b. During the second year, contract and work with artist to develop the poster and brochure, design layout, and then identify a printer to print the poster and brochures.

c. Upon completion of printing, the posters and brochures will begin to be distributed to the public, school teachers and displayed whenever possible.

6. **If the work in this grant was part of a larger undertaking with other components and**

funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

This year's objective was achieved by the following activities: Information was collected for the various projects that would provide the most useful and timely information to the sports fishing community; and, photographs were taken of reef-fish in consultation with fisheries biologist.

Requests were made of three different Guam artists to provide a cost estimate for the finished work and a written over-view of how the work would be created. An artist who has created more than a dozen sea/land images was selected and has completed the work. The digital painting was completed and text associated with the fresh water environment included.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. N/A

9. List any publications or in-house reports resulting from this work. N/A

Name, title, phone number, and e-mail address of person compiling this report:

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Mitchell Warner, Resource, Education, and Information Officer, (671) 735-3955, mpw61145@hotmail.com.

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Territory of Guam

Grant number: F-1-R-16

Grant name: Guam Sport Fish Investigations

Project number and name: Project 6. Guam Sports Fish Aquatic Education. Guam Sports Fish Aquatic Education. Job 3: Maintenance and expansion of Aquatic education website

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [extended to March 31, 2010]

3. Location of work: Guam: Island wide

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated".

Source	Budgeted	Actual ___or Estimated_X__
Federal : Sport Fish Restoration	$39,803	$8381.01
State		
Other:_____		
_____		
Total Federal	$39,803	$8381.01
Total match		
Total project:	$39,803	$8381.01

5. Objectives:

a. Contract web-master services to maintain the software programming of the Aquatics website.
b. Resource Education and Information Officer (REIO) provides content maintenance: Post available aquatic education materials, project reports, photos, etc.
c. Disseminate new information in a timely manner.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

The objectives were met during FY09 as webmaster services were contracted for the fiscal year making the Division's website (www.guamdawr.org) available to the public for their information. The website provided aquatic educational materials, project reports, photos, etc., as they were available.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. N/A

9. List any publications or in-house reports resulting from this work. N/A

Name, title, phone number, and e-mail address of person compiling this report: Thomas P. Flores, Jr., Acting Fishery Supervisor, (671) 735-4033, thomaspfloresjr@yahoo.com .

Mitchell Warner, Resource, Education, and Information Officer, (671) 735-3955, mpw61145@hotmail.com.

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Territory of Guam

Grant number: F-1-R-16

Grant name: Guam Sport Fish Investigations

Project number and name: Project 6. Guam Sports Fish Aquatic Education. Job 4: Create and expand a digital library of fish and marine habitat photos

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009[extended to March 31, 2010]

3. Location of work: Guam: Island wide

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	Budgeted	Actual ___or Estimated_X__
Federal : Sport Fish Restoration	$10,562.00	$27,991.18
State		
Other:_____		
_____		
Total Federal	$10,562.00	$27,991.18
Total match		
Total project:	$10,562.00	$27,991.18

5. Objectives

a. Solve the lack of quality images, by assessing the state of the library of aquatic related photos, and assemble a list of species, habitats, and subject matter needed to replaced and photographed.
b. Photograph the images needed in the assessment, digitally photographing fish and marine habitat to solve Aquatics' current lack of quality images of reef fishes and coral habitats.
c. Update photographs on the Fisheries section poster board and have them printed.
d. Archive the images as JPEG files on Gold/archival compact disks to assure retention of the quality of the images.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

The objectives of this project were met by the following activities during FY09:

1. Because of the tropical environment, typhoons, and earthquakes, nearly all the stored film images suffered from humidity, heat, fungus and mold damage. A comprehensive project of in-water photography was begun to replace these images.
2. More than 80 hours of underwater time was spent photographing in-shore and reef fish. Hundreds of fish were photographed, providing a database with a wide variety images to choose from. The majority of the images were taken inside the reef in the MPA's.
3. New, digital fish images were used to create a marine preserve calendar with integrated tide charts, lunar phases, and detailed information regarding the marine preserves.
4. All information and images were backed-up on an external hard drive. The information was then archived to Gold/Archival compact disks in triplicate and stored off-site.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. N/A

9. List any publications or in-house reports resulting from this work. N/A

Name, title, phone number, and e-mail address of person compiling this report: Thomas P. Flores, Jr., Acting Fishery Supervisor, (671) 735-4033, thomaspfloresjr@yahoo.com .

Mitchell Warner, Resource, Education, and Information Officer, (671) 735-3955, mpw61145@hotmail.com.

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Territory of Guam

Grant number: F-1-R-16

Grant name: Guam Sport Fish Investigations

Project number and name: Project 6. Guam Sports Fish Aquatic Education. Job 5. Public Presentations of Aquatic Resources

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009[extended to March 31, 2010]

3. Location of work: Guam: Island wide

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	Budgeted	Actual ___or Estimated X__
Federal : Sport Fish Restoration	$50,470	$106,349.18
State		
Other:_____		
_____		
Total Federal	$50,470	$106,349.18
Total match	-0-	
Total project:	$50,470	$106,349.18

5. Objectives:

To increase understanding of the importance of reefs, the knowledge of fish and other marine life, Guam's marine preserves, and awareness of watersheds, and the erosive damaging effects of grassland fires by presentations to various groups, events, and schools.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

The objectives were met by the following activities during FY09:

a) The Division of Aquatic and Wildlife Resources (DAWR) delivered a total of fifty-six (56) presentations on endangered species, coral reef ecology (esp. toxic marine sea creatures) and fish to: public and private elementary, middle schools and high schools; University of Guam (UOG) classes; different summer camps; Guam Community College (GCC) police trainees; and the

Department of Defense Education Activity (DODEA) High, elementary, middle, and high schools.

b) Aquatic presentations were observed and critiqued by the Resource, Education and Information officer for: preparation; adequate use of teaching aids, and delivery style.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

The dramatic difference in projected and actual costs could be attributed an unforeseen increase in the number of request for fishery related talks that included presentations at public and private schools, the University of Guam, and Fish Cooperative meetings.

9. List any publications or in-house reports resulting from this work. N/A

Name, title, phone number, and e-mail address of person compiling this report: Thomas P. Flores, Jr., Acting Fishery Supervisor, (671) 735-4033, thomaspfloresjr@yahoo.com .

Mitchell Warner, Resource, Education, and Information Officer, (671) 735-3955, mpw61145@hotmail.com.

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-1-R-16

Grant name: Guam Sport Fish Investigations

Project number and name: Project 6. Guam Sports Fish Aquatic Education. Job 9. MPA Campaign

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [Extended to March 31, 2010]

3. Location of work: Island-Wide, Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	Budgeted	Actual __ or Estimated X
Federal :_____	$125,803	$19,100
State		
Other:_____		
_____		
Total Federal	$125,803	$19,100
Total match		
Total project:	$125,803	$19,100

5. Objectives:

a. To obtain a purchase order for marketing success assessment presurvey (Q-Mark survey) by January 1, 2009
b. To obtain a purchase order for a multimedia campaign by January 1, 2009.
c. To set up an MPA Awareness Month (month will be within grant period and to be determined) in conjunction with the Environmental Education Committee and the International Year of the Reef efforts.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

The MPA multimedia campaign was to be contracted to a company to administer. However, the Department received the approval letter from the U.S. Fish and Wildlife Service to amend F-1-R-15 past the requisition deadline. Because of this, the multimedia campaign requisition could not be submitted to the General Services Agency since the requisition deadline for bids over $15,000 passed. The Department scaled down the MPA campaign to meet the requisition deadline for items below $15,000. The Department submitted requisitions for the development of a MPA website, t-shirts, bumper stickers, recycled water bottles, pens, and pins. The Department received these items and is working with the contractor on developing the website. Furthermore, the MPA campaign project coordinator transferred to another Department resulting in the other objectives not being accomplished. The Department will resubmit a MPA campaign proposal for FY09 to be coordinated by the resource and information educational officer.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

See #7 above.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:

Jay T. Gutierrez, Assistant Chief, (671) 733980, jaytgutierrez@yahoo.com

FISHERIES BOATING ACCESS PROGRAM
FY 2009

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources
FY 2009

1. State: Territory of Guam

Grant number: F-6-B-5

Grant name: Guam Sport Fish Investigations

Project number and name: F-6-B-5. Maintenance and Repair of Ramps and Piers

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009

3. Location of work: Hagatna Boat Basin, Merizo Pier and the Agat Marina

4. Costs:

Source	Budgeted	Actual _X_ or Estimated___
Federal :_____	$647,978	$64,561.39
State	-0-	-0-
Other:_____	-0-	-0-
Total Federal	$647,978	$64,561.39
Total match	-0-	- 0 -
Total project:	$647,978	$64,561.39

5. Objectives:

a. Have a contract in place to repair the Merizo Pier's damaged concrete crossbeams on the east side of the pier, replace the Merizo Pier's upper bumper that was connected to the concrete crossbeams on the east side of the pier, and replace all the upper and lower rubber bumpers on the Merizo boat ramp's walkways by January 2009.

b. Conduct at least two (2) clean-up days with Fisheries staff during the fiscal year to remove trash and fishing gear that may have entered the waters immediately around the Merizo pier and boat ramp.

c. Complete the contractual the work to replace the four (4) existing solar lights on the Merizo Pier, repair the two (2) lights at the foot of the Merizo boat ramp, repair the two (2) lights in the parking lot, and add one (1) additional light on the pier. The contractor will apply for all permits (electrical hook-up, etc.) The Department of Agriculture shall be responsible for the cost of the lighting. The contract will be completed by December 2008.

d. Have a contract in place to waterblast the four (4) public boat ramps at the Agana Boat Basin, the Agat Marina, and the Merizo Boat Ramp by November 2008.

e. Have a contract in place to repair the damaged boat ramp concrete walkway and to replace the wooden bumpers on both concrete walkways at the Agat Marina by January 2009.

f. Have a contract in place to extend the existing pilings at the Agana Boat Basin by January 2009. The previous contract was officially cancelled due to irreconcilable differences on an increase in cost for the project by the previous contractor. The new contract will be limited to extending the pilings.

g. Have a contract in place to replace damaged decking at the Agana Boat Basin by January 2009, pending the completion of a Scope of Work by the Port Authority of Guam. Guam's Division of Aquatic and Wildlife Resources has earmarked at least $250,000 for this project.

h. Meet with the Archdiocese of the Agana Chancery Office to discuss the feasibility of purchasing Archdiocese property adjacent to the makeshift Ylig boat ramp to construct a boat ramp facility by December 2008.

i. Meet with members of the local boating and fishing community to obtain their input on boating access needs, concerns, and possible projects that can be funded by Sport Fish Restoration's Boating Access program.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

The scopes of work for the major work for this project: repair of the Merizo pier and boat ramp bumpers and repair of the damaged walkway at the Agat Marina were submitted. By summer 2009, the Merizo and Agat Marina jobs were with Public Works and were in the process of being bidded out. In FY 2010, an amendment to the grant will be made in order to accomplish two things: give the Port Authority engineering and procurement oversight over the Agana Boat Basin work rather than the Department of Public Works and to change the boat access objectives to have Dock C replaced rather than Dock B, as per the Port Authority of Guam's request. Having the Port deal with the Agana Boat Basin projects should speed up the engineering design work and the procurement/bidding process.

The lights at the Merizo Pier were completed during December 2008. The lights are greatly appreciated by the fishing community, with the Department of Agriculture providing funding for the electricity. The current mayor of Merizo has increased the upkeep of the facility as a response to the facility being upgraded and repaired.

A contact was finally secured in December 2008 for the waterblasting of the ramps. This job is always greatly appreciated, preventing several boats from being pulled into the marine

environment. Part of the scope of work involves picking up trash along the boat-launching ramp. Inspections of the ramp are done within a few days of the company scheduled clean up.

The archdiocese, in the past, provided the Department of Agriculture with a letter that they do not wish that the makeshift ramp at Ylig be upgraded. Reasons included noise, trash, and vandalism. During FY09, however, expansion of the road and bridge at the Ylig makeshift ramp will remove the makeshift ramp. It has been rumored that members of the fishing and boating community have approached the archdiocese to reconsider placing another makeshift ramp near the current ramp, especially since this is the only makeshift ramp providing access to fishing and boating research to the eastern side of Guam. The department will be approaching and sending another letter to the archdiocese.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

DAWR did not complete the two (2) clean up days around the boat ramp and pier facility. Dive physicals for the staff were not obtained until late summer, and time was not found for all staff to participate. However, staff has been requested to assist with removing trash seen on the pier during creel census days.

DAWR did not formally meet with the boating community to discuss boating access options directly with the public. However, conversations with members of the boating and fishing community were conducted during offshore creel surveys by the boating access coordinator and several fisheries technicians. During FY10, boaters have requested that a significant portion of boating access funds be used to assist the Port with replacing the walkways and that the Department of Agriculture find an alternative to the Ylig makeshift ramp once it is destroyed by a highway expansion program. While a ramp at northern Guam has been requested, a site has been difficult to identify on private property that do not require extensive dredging, and with large enough property area to accommodate a parking lot, a rinsedown facility, and other amenities.

9. List any publications or in-house reports resulting from this work.

Name, title, phone number, and e-mail address of person compiling this report: Thomas Flores, Jr., Fisheries Biologist III, (671) 735-4033, thomaspfloresjr@yahoo.com.

Jay Gutierrez, Assistant Chief, (671) 735-3980, jaytgutierrez@yahoo.com

GUAM
FISHERIES DEVELOPMENT PROGRAM
F-8-D-5
FY 2009

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-8-D-5

Grant name: Guam Sport Fish Investigations

Project number and name: F-8-D-5: Maintenance and Repair of Fishing Platforms

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [March 31, 2010]

3. Location of work: Guam: Ylig #1 (13°23'29.1" N144°46'30.7" E) and Togcha Bay Togcha #1 (13°21'55.8" N 144°46'20.0" E) Togcha #2 (13°21'55.5" N 144°46'21.9" E).

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X_ or Estimated__**
Federal : Sport Fish Restoration	$57,616.00	$9,531.63
State	-0-	
Other:_____	-0-	
_____		
_____		
Total Federal	57,616.00	$9,531.63
Total match	-0-	
Total project:	57,616.00	$48,084.37

5. Objectives:

a. To upkeep, maintain, and repair the three (3) fishing platforms located on the reef flats of Ylig and Togcha Bays, over a one-year period. This will include but not be limited to removal of accumulated trash in the vicinity of the platforms, inspecting, maintaining, and repairing fishing platforms. The type of repair will depend on the type of damage encountered and will be provided as needed.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Objective 5a was partially accomplished for this reporting period (see item 8 for detailed deficiencies). A requisition and scope of work to upkeep, maintain, and repair the three (3) fishing platforms located on the reef flats of Ylig and Togcha Bays was sent to Department of Administration's General Service Agency. A purchase order was awarded to Americana Suppliers on February 17, 2009 for the project in the amount of $10,500.00. The contract consisted of cleaning in the vicinity of the platforms and inspecting the platforms twice a month, which includes maintenance and repairs to the foundation, rails, signs, ladders, and rod holders as well as painting with fiberglass coat marine paint to the ladders, benches rails and parts.

Americana Suppliers provided monthly reports of accomplished tasks together with monthly invoices and dates of completion to the Department accounting for the months of March through August 2009. The invoices indicated the dates of services per month. The amount of fishing debris identified, logged and materials collected are summarized in Table 1. Shoreline and recreational activities include debris from fast food, beach-goers, sports/games, festivals, liter from streets / storm drains, etc. with a total of 1,550 pieces. Ocean and waterway activities include debris from recreational/commercial fishing and boat /vessel operations with a total of 256 pieces. Smoking – related activities includes dumping activities that consists of cigarettes / cigarette filters, lighters, tips, tobacco packages/wrappers, appliances, batteries, building materials, car parts, drums and tires totaling 606 pieces. For medical/personal hygiene, this consists of condoms, diapers, syringes, tampons/ tampon applicators totaling 45 pieces. Lastly, debris items of local concern for this period were 4 unidentified broken glass bottles and 1 hand line with hooks.

Attached are the reported dates of scheduled work days (Table 1a (Ylig), 1b (Togcha 1) and 1c (Togcha 2) based on invoices provided by Americana Suppliers.

Table 1

Months	Shoreline & Recreational Activities	Ocean / Waterway Activities	Smoking-Related / Dumping Activities	Medical/Personal Hygiene	Debris iItems of Local Concern
March	130	31	82	13	1- Broken beer bottle
April	106	11	24	4	1 – Hand line w/ hook 3- Broken beer bottles
May	284	51	95	7	None identified
June	291	52	131	11	None identified
July	383	55	150	7	None identified
August	356	56	124	3	None identified
September	No work identified	No work identified	No work identified	No work identified	No work identified
Total	1,550	256	606	45	5

Table 1a

DATA / WORK LOG - 2009 (Site Work Dates Completed)

YLIG SITE

Shore/Cleanup	FP INSPECTION	FP DEBRIS CHECK	FP DEBRIS AREA CK	Ladder-Nskid	Rail Paint

MARCH	(1)	10- March	10-March	10-March	10-March	Needs painting & Maintenance, no application	Needs painting& Maintenance, no application
	(2)	31-March	31-March	31-March	31-March	Needs painting, no application	Needs painting no application
APRIL	(1)	20-April	20-April	20-April	20-April	20-April	20-April
	(2)	30-April	30-April	30-April	30-April	30- April	30- April
MAY	(1)	15-May	15-May	15-May	15-May	15-May	Non applied
	(2)	30-May	30-May	30-May	30-May	30-May	Non applied
JUNE	(1)	16-June	16-June	16-June	16-June	16-June	Non applied
	(2)	30-June	30-June	30-June	30-June	30-June	Non applied
JULY	(1)	20-July	20-July	20-July	20-July	Needs repainting	Needs repainting
	(2)	31-July	31-July	31-July	31-July	Needs repainting	Needs repainting
AUGUST	(1)	18-August	18-August	18-August	18-August	18-August	18-August
	(2)	31-august	31-August	31-August	31-August	31-August	31-August

DATA / WORK LOG - 2009 (Site Work Dates Completed)

TOGCHA 1 SITE

		Shore/Cleanup	FP INSPECTION	FP DEBRIS CHECK	FP DEBRIS AREA CK	Ladder-Nskid	Rail Paint
MARCH	(1)	10- March	10-March	10-March	10-March	Needs painting & Maintenance, no application	Needs painting & Maintenance, no application
	(2)	31-March	31-March	31-March	31-March	Needs painting & Maintenance, no application	Needs painting & Maintenance, no application
APRIL	(1)	20-April	20-April	20-April	20-April	20-April	20-April
	(2)	30-April	30-April	30-April	30-April	30- April	30-April
MAY	(1)	15-May	15-May	15-May	15-May	15-May	Non applied
	(2)	30-May	30-May	30-May	30-May	30-May	Non applied
JUNE	(1)	16-June	16-June	16-June	16-June	16-June	Non applied
	(2)	30-June	30-June	30-June	30-June	30-June	Non applied
JULY	(1)	20-July	20-July	20-July	20-July	Needs repainting	Needs repainting
	(2)	31-July	31-July	31-July	31-July	Needs repainting	Needs repainting
AUGUST	(1)	18-August	18-August	18-August	18-August	18-August	18-August
	(2)	31-august	31-August	31-August	31-August	31-August	31-August

Table 1c

DATA / WORK LOG - 2009 (Site Work Dates Completed)

TOGCHA 2 SITE

		Shore/Cleanup	FP INSPECTION	FP DEBRIS CHECK	FP DEBRIS AREA CK	Ladder-Nskid	Rail Paint
MARCH	(1)	10- March	10-March	10-March	10-March	Needs painting & Maintenance, no application	Needs painting & Maintenance, no application
	(2)	31-March	31-March	31-March	31-March	Needs painting & Maintenance, no application	Needs painting & Maintenance, no application
APRIL	(1)	20-April	20-April	20-April	20-April	20-April	20-April
	(2)	30-April	30-April	30-April	30-April	30-April	30-April
MAY	(1)	15-May	15-May	15-May	15-May	15-May	Non applied
	(2)	30-May	30-May	30-May	30-May	30-May	Non applied
JUNE	(1)	16-June	16-June	16-June	16-June	16-June	Non applied
	(2)	30-June	30-June	30-June	30-June	30-June	Non applied
JULY	(1)	20-July	20-July	20-July	20-July	Needs repainting	Needs repainting
	(2)	31-July	31-July	31-July	31-July	Needs repainting	Needs repainting
AUGUST	(1)	18-August	18-August	18-August	18-August	18-August	18-August
	(2)	31-august	31-August	31-August	31-August	31-August	31-August

8. Discuss differences between work anticipated in grant proposal and grant agreement and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

For objective 5A, during each months scheduled tasks was based on weather dependant conditions for safety concerns. Quality control site visits were carried out as stated on the scope of work and had noted that from the start of the contract invoices had several deficiencies which needed to be addressed with the awarded vendor Americana Suppliers. Department staff met

with the staff of Americana Suppliers on July 29, 2009 and provided a letter along with the scope of work to them concerning the issues (Refer to document #1 and #2). Noted was the indication that non skid application was performed for the months of April May and June however, site visits showed that the non skid area were painted over with a yellow type paint making the step areas slippery. Non skid and rail paint was applied on August 18 and completed on August 31st.

On August 18th and 31st the rails, ladders and benches were re-painted to the specifics of the scope of work however, no work was done for the month of September as seen on Tables 1, 1a through 1c.

The list below summarizes the various deficiencies noted by the Department.

1. **No report on the footing foundation was provided to the Department as stated in Job Description 1a** on the scope of work. Reports were only provided in the July summary report after the meeting with Mr. Semi King of Americana Suppliers.
2. **Job Description 1c** indicates to "Apply *non skid coat paint on ladders*, 1X per month". Site visits during the months of March through June noted that the ladder was painted with yellow paint and not non-skid therefore, making the step area of the ladder slippery. The non skid was only applied on the ladder for the final month of the contract on August 18, 2009 and the 31st.
3. **Job Description 1d** of the scope of work (document #2) indicates to "Apply marine coat (yellow) *paint by brush for fiberglass parts* 3 feet above water line to (3) platforms. Only on parts above waterline to minimize any spillage." Though, Table's 1a, b, & c state that painting was conducted on April 20, 2009, one issue noted through site visits stated that the bench areas of all three platforms were not painted (see document #1photos) until the final month starting august 18 and completed on August 31 at the end of the contract.
4. **Job Description 2c** of the scope of work (document #2) indicates "Removal of debris *below platforms* (3) deck, and *surrounding areas 10 feet surrounding platforms*, *including channel in front* for small debris weighing 50lbs or less. Includes, drift nets, tuna cords, metal debris, trash, batteries and cans." Site visits as well as monthly reports to include a statement by one of the local fisher people who uses the Ylig fishing platform on a daily basis, Mrs. Lucia Borja contact number (671) 456-4512 stated that from the start of this contract " I have seen them twice a month only sometimes, but never seen them stay pass ten minutes, just taking trash on the platform but not in the water at all". Her statement was taken while at the platform site visit on August 14, 2009. Refer to photo #1 for site catch photo of Mrs. Borja's family camp out at the Ylig platform site.
5. **Job 3a** of the scope of work (document#2) states "Removal of all trash, debris, *floating objects between shore and platforms, shores in front of platforms (3)*." Again based on site visits as well as statements from consistent users of the platforms, including Americana Suppliers staff Mr. Semi King, that "in water trash removal was done only once for this contract".

These deficiencies noted were done through the fulfillment of Job description 5g in the scope of work (document #2) which states "DAWR reserves the right to inspect sites at any time to ensure compliance with contract specifications." In the future, the department will add in the scope of work to reflect the purchase order " To be coordinated between requesting agency and vendor" to establish a schedule for the maintenance and repairs as well as site visits with the awarded vendor for quality control of inspections, repairs, maintenance, reports and invoices.

9. List any publications or in-house reports resulting from this work.

Refer to document number 1.

Name, title, phone number, and e-mail address of person compiling this report
Jay Gutierrez, Assistant Chief (671) 735-3980, jaytgutierrez@yahoo.com

Shawn Wusstig, Fisheries Technician II (671) 735-4037, shawnwusstig@yahoo.com

Document # 1

DEPARTMENT OF AGRICULTURE
Division of Aquatic & Wildlife Resources
142 Dairy Road
Mangilao, Guam 96913
Phone: (671) 735-3955/56 Fax: (671) 734-6570

July 29, 2009
Americana Suppliers Wholesaler
P.O Box 6840
Tamuning, Guam 96931
Phone: 646-4371
Fax: 649-9245

Mr. Eric Flores,
Issues regarding maintenance and repairs to fishing platform 1- Ylig, Togcha #1 and #2. Review of the reports from American Suppliers which was sent to the Department of Agriculture's Division of Aquatic and Wildlife Resources (DAWR) as a summary of work accomplishments for the months of April, May and June have several deficiencies thus, the need to address these issues is stated in the scope of work provided.

The following are concerns which have not been addressed in the summery reports and are needed to fulfill the scope of work for the "Maintenance and repairs of Guam's Fishing platforms".

- There have been no mention of the condition of the footing or foundation
- Non skit on the step portion of the ladders was painted over with inappropriate paint making it slippery for users thus being hazardous
- No non skit paint on the step area was applied as indicated on the May and June data work log
- Lower portion of the ladder is heavily covered with alga and barnacles
- The center bench has not been painted, with heavy exposure to the elements, the non painted areas have become brittle and may cause splinters
- As inspections are being done, it needs to be indicated as to what was inspected such as, footing / foundation, rails, rod holders etc.
- As work is being done, provide the current condition prior to the repairing and or maintaining, then the condition afterwards such as the debris portion. This needs to be indicated for the platforms individually.

Please address and complete the above areas of concern regarding this project therefore, accounting for the funds being obligated to your company to complete the scope of work awarded to you. Attached is a copy of the scope of work awarded.

As a reminder, the purpose of this project is to prolong the lifespan of the Fishing Platforms for the people of Guam to fish in safe conditions. Please see the attached for specific details from the site inspection.

Shawn Wusstig

Fishing Platform Project Coordinator

TOGCHA – GUAM / FISHING PLATFORMS / JUNE 23, 2009

Inner Fishing Platform

Non-Skid layer has been covered with yellow paint and very slippery / dangerous to access platform. Note the painting to the right side of the ladder over the 2008 works.

Lower portion of Ladder untouched since 2008 works / requires marine life removal (calcareous alga & barnacles)

Outer Fishing Platform

Non-Skid layer has been covered with yellow paint and very slippery / dangerous to access platform.

Lower portion of Ladder untouched since 2008 works / requires marine life removal (calcareous alga & barnacles)

2008 works undertaken on ladders by removing them temporarily and taken back to shore for cleaning / painting / non-skid applications.

This shows the painting application on top of the non-skid – with splattered paint on the support beam.

Platform Touchups – by free hand. No sanding and full platform repainting yet.

Document # 2

Scope of Work

Proposal for contract to three Fishing Platforms for Services and Maintenance

Proposed duration is for six months expiring on September 30, 2009

From:	Shawn Wusstig Department of Agriculture Division of Aquatic & Wildlife Resources Fisheries Section Tel: 735-4037 Fax: 734-6570
Subject:	Request for Quotation

Project Site:
Ylig #1 GPS: 13°23'29.1" N / 144°46'30.7" E
Ipan Togcha #1 GPS: 13°21'55.8" / 144°46'20.0" E
Ipan Togcha #2 13°21'55.5" N / 144°46'21.9" E

Job Description:

1. Inspection, Maintenance and Repairs to (3) Fishing platforms total for loosens bolts, nuts, and missing epoxy to 2 X per month.

A. Inspect *footing foundation* of platforms, tighten if needed and epoxy when needed and replace bolts and nuts if missing.
B. Inspect and tighten bolts, nuts and screws on the *rails surrounding platforms*, *ladder, benches, and signs*.
C. Apply non skid coat paint on ladders, 1X per month
D. Apply marine coat (yellow) *paint by brush for fiberglass parts* 3 feet above water line to (3) platforms. Only on parts above waterline to minimize any spillage.

2. Removal of fishing debris (trash) to (3) platforms 2 X per month.

A. Remove all trash to include paper, monofilament (fishing line) plastic wastes, aluminum cans, batteries and metal debris located *on the platforms* (3)
B. Removal of all lines tied *to platforms*, rope, monofilament (fishing lines), strings, and tuna cords and chains ECT.
C. Removal of debris *below platforms* (3) deck, and *surrounding areas 10 feet surrounding platforms*, *including channel in front* for small debris weighing 50lbs or less. Includes, drift nets, tuna cords, metal debris, trash, batteries and cans.

3. Removal of trash, debris, metal items, batteries, plastics, lines to shore access to (3) Platforms 2 X per month

A. Removal of all trash, debris, *floating objects between shore and platforms, shores in front of platforms (3)*
B. Removal of *non biodegradable items* such as batteries, monofilament lines, tuna cords, chains, rope, aluminum cans, metal items on shore accessing platforms (3).

4. Quantifying debris and items collected above, below platforms (3) including 10 feet surrounding platforms, and shore access to platforms using NOAA forms 2 X per month

A. Debris collected at the platforms *is to be sorted* in a manner to quantify such items; Plastics, batteries, Metals, Aluminum cans, Fishing Sinkers, Glass, bottles, Monofilament lines, tuna cords, ECT. Are to be separated and indicated on the NOAA coastal form provided by DAWR.
B. Debris collected prior to disposal should be separated and all recyclable items such as aluminum and car batteries are to be recycled, metal, glass and other non biodegradable items are to be disposed of properly to EPA specifications at solid waste sites and a copy of receipt to be given to DAWR accompanying the NOAA data sheet upon completion. The contractor may keep the money from recycling.

5. Handling of debris and Quality control of debris collected 2 X per month to fishing platforms (3)

A. All items collected during assigned job tasks, is to be brought to DAWR Fisheries office accompanying the NOAA data sheet indicating amount of items such as metal items, plastics, glass ECT. And site of each platform to be indicated on each sheet (separate) to each platform site.
B. Tools utilized by contractor are supplied by the contractor including trash bags, and vehicles used to transport from platform sites to DAWR , and to dumpsite.
C. Dumpsite deposal of debris is paid by the contractor and a copy of receipt to be provided to DAWR fisheries office as proof of proper disposal.
D. The use of heavy equipment such as back hoes, jackhammers and diggers are not allowed on the shore without proper permits
E. Liability of any damages to reefs, marine animals, and plants are at the responsibility of the contractor.
F. Contractor is liable for any damage to marine life.
G. DAWR reserves the right to inspect sites at any time to ensure compliance with contract specifications.

Proposal for contract to Three Fishing Platforms For Repairs and Maintenance

Prepared by DAWR Fisheries
Shawn Wusstig Technician II
(671) 735-4037

Photo 1. IPAN TOGCHA FISHING PLATFORMS #1 & 2, GPS: #1 13°21'55.8" N / 144°46'20.0" E #2 13°21'55.5" N / 144°46'21.9" E

Photo 2. YLIG FISHING PLATFORM- GPS: 13°23'29.1" N / 144°46'30.7" E

Photo 3. Ylig Platform site visit Hook / Line and snorkel spear catch from August 14, 2009.

SPORT FISH RESTORATION
FY 2009
F-9-D-7

Annual Project Performance Report

Guam Division of Aquatics and Wildlife Resources
FY 2009

1. State: Guam

Grant number: F-9-D-7

Grant name: Guam Sport Fish Investigations

Project number and name: Maintenance and Redeployment of DAWR FADs and SWMs

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Guam: Islandwide

Source	**Budgeted**	**Actual _X_ or Estimated___**
Federal :_____	$643,826.00	$100,090.84
State	-0-	
Other:_____	-0-	
_____		
_____		
Total Federal		$100,090.84
Total match	-0-	-0-
Total project:	$643,826	$100,090.84

4. Costs:

5. Objectives:

a. To maintain, preserve, and replace the 14 fish aggregating devices located between 3.5 and 12 miles off the island of Guam, in a one-year period.

b. To maintain, preserve, and replace the 34 shallow water mooring buoys located in 30-40 ft. of water off the coast of Guam, in a one-year period.

c. To study the feasibility of establishing new shallow water mooring buoys within Tumon Bay Marine Preserve, Piti Bomb Holes Marine Preserve, and Achang reef flat Preserve in a one year period.

d. To study the feasibility of establishing new FAD sites on the eastern side of Guam and explore appropriate designs capable of withstanding weather conditions on the eastern side.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

(5a)-In reporting period FY09, several storms that made extremely close passage to Guam generated damaging marine conditions resulting in the lose of Haputo # 2, Facpi # 2 and Cocos buoys, which were all confirmed offline on a FAD aerial survey conducted in September 6, 2009. The lose of these buoys in addition to buoys Pati # 6, Ritidian # 5, Number 4, Uruno # 3, Agat, 9 Mile and Umatac that where offline at the beginning of the reporting period, bring the total offline FAD's at 10. Currently Number 1, Ledge, Old Noaa and Facpi #1 are online. Coral Reef Marine Center was awarded the contract to supply the Guam Division of Aquatic and Wildlife Resources GDAWR 4 FAD line systems 2each 1000-fathom, and 2 each 500-fathom sets received in December 09 at the landed cost of as back up to have in stock to replace errant buoy's as needed in a timely manner. These systems in addition to 7 systems in storage already, gives us a total of 11 systems in inventory. At the beginning of the reporting period, a Request for Proposal was submitted to the General services Agency for the Deployment of 7 FAD's, which at the end of reporting period 08' was needed to complete and have all FAD buoys online and functioning.

A discrepancy in the purchase order resulted in no FAD systems being deployed in FY09. Coral Reef Marine Center was issued the purchase order for FAD deployment. However, they do not perform that type of work. The company sales and repairs boats and related boating products. The Department attempted to resolve the issue with a letter addressed to the General Services Agency but the letter was not acted upon. A RFP for the Deployments and Maintenance of the FAD Systems contract will need to be resubmitted once again further delaying operations. Improvements in deployment procedures allow two FAD deployments a day for greater efficiency and reestablishment of the FAD's are totally dependent on the awarding of the new deployment contract. An increase in budget to deploy the remaining FAD's may also be required for FY' 10.

(5B) Division of Aquatic and Wildlife Resources (GDAWR) is currently responsible for the maintenance and redeployment of 34 Shallow Water Moorings (SWM) sites located on the northern and leeward sides of Guam. Although GDAWR is responsible for all aspects of the SWMS program, GDAWR established an agreement with the Guam Marine Awareness Foundation (GMAF) during FY05 to reinstall offline SWMs with components that would be obtained from GDAWR at no cost. A partial inventory survey conducted in February by GDAWR staff by boat on the SWMS located on the Northwest portion of the island to verify locations and if the SWMS were operational or aborted due to high surf conditions and have not been able to complete the survey to date. Communications between GMAF and GDAWR representatives have been planned but not finalized. Since most materials and supplies are in stock and located in storage at the GDAWR warehouse and no installation cost are required, no additional funding is necessary. Plans to complete the inventory survey are pending better marine conditions and dialog between GDAWR and GMAF.

(5C) The combination of staff on medical leave and hazardous marine conditions have prevented these objectives from being completed in this reporting period. Marine conditions have prevented field studies to investigate potential new SWMS sites.

(5D), Only preliminary internet research have been conducted to identify potential new FAD designs suitable for Guam's unique marine conditions. Possible training and site visits for new FAD deployments and methodology may be required to determine correct applications.

8. Discuss differences between work anticipated in grant proposal and grant agreement and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

At the end FY'09 all FAD locations should have been online as proposed in the grant agreement, unfortunately, as described above, with the exception to the procurement of 4 addition FAD Line Sets, aerial survey, partial SWMS inventory and only basic maintenance on the division boat and daily operations was performed in this reporting period to date.

9. List any publications or in-house reports resulting from this work.

Please refer to the DAWR Website at (http—www.guamdawr.org) and Fisheries section annual reports (2005)

Name, title, phone number, and e-mail address of person compiling this report:
Jamie Bass, Fisheries Technician II, (671) 735-3958, jddsbass@hotmail.com
Jay Gutierrez, Assistant Chief, (671) 735-3980, jaytgutierrez@yahoo.com

Figure 1. Vicinity map of the Guam Division of Aquatic and Wildlife Resources Shallow-Water Mooring Sites

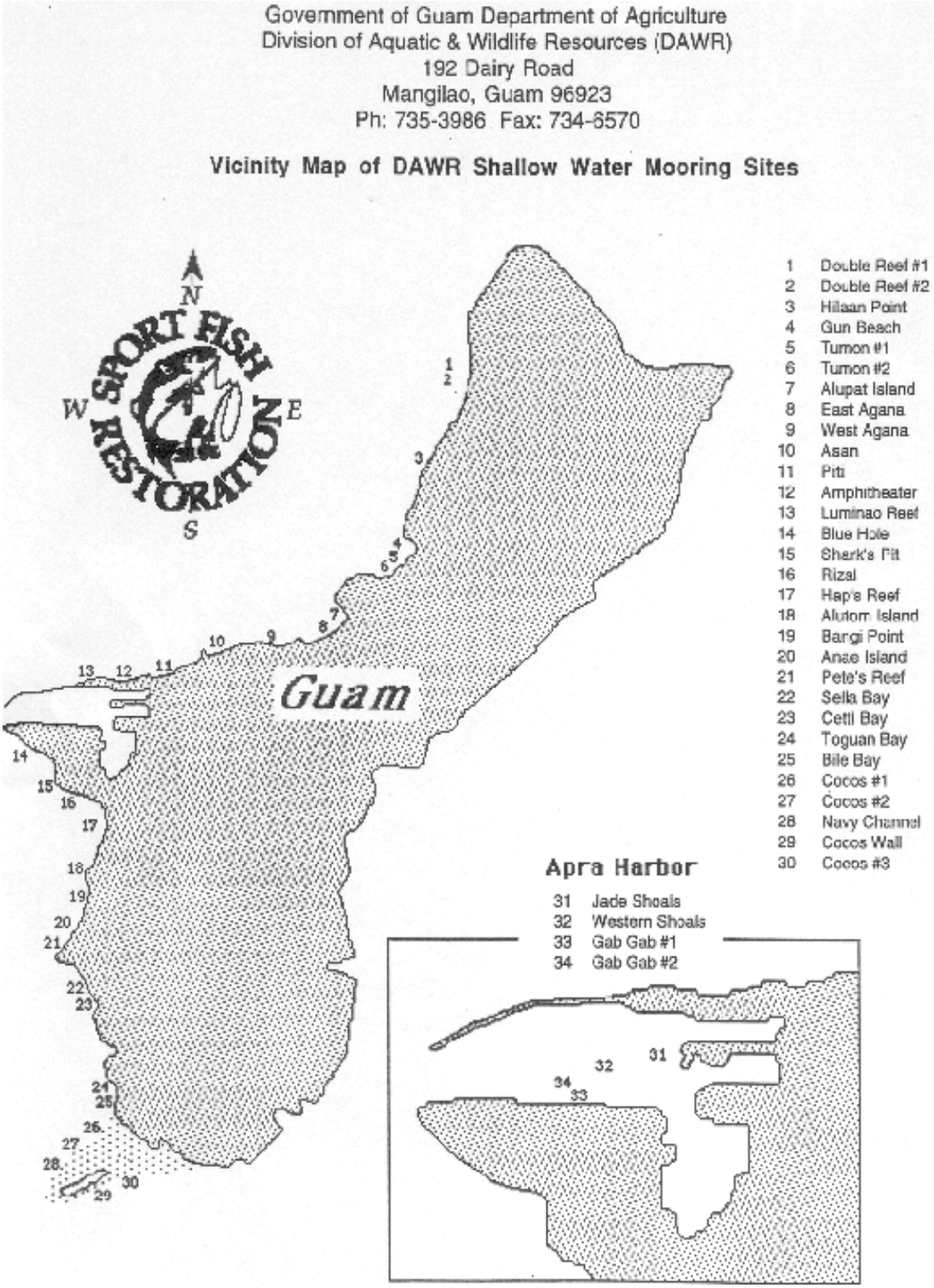
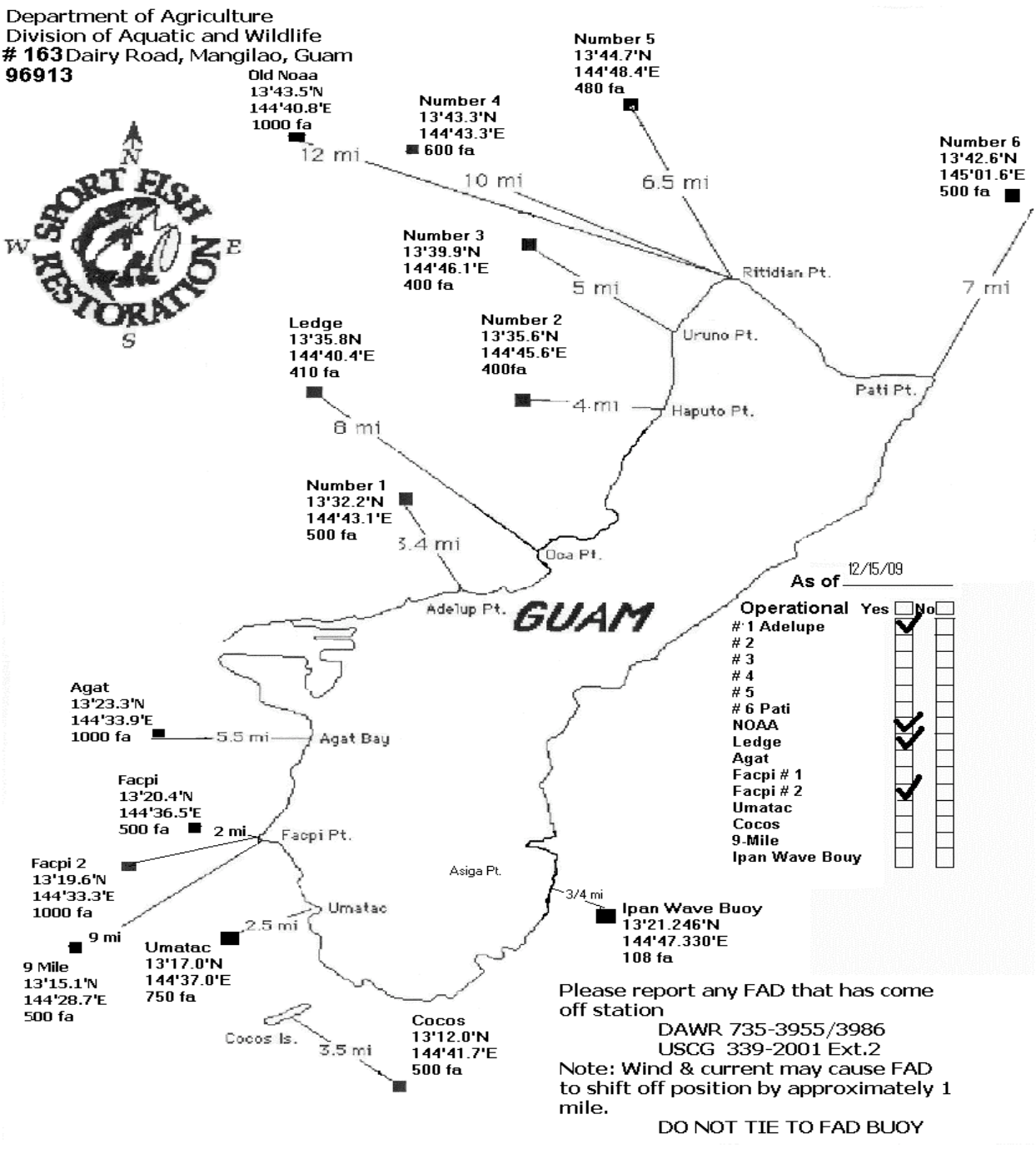


Figure 2. Locations of Fish-Aggregating Devices (FADS) around Guam.



Masso Reservoir Restoration
F-11-D-1

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources
FY 2009

1. State: Territory of Guam

Grant number: F-11-D-1

Grant name: Guam Sport Fish Investigations

Project number and name: Masso Reservoir Restoration

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [extended to March 31, 2010]

3. Location of work: Masso Reservoir

4. Costs:

Source	Budgeted	Actual __or Estimated_X__
Federal :_____	$531,043.00	$895.81
State		
Other:_____		
_____		
_____		
Total Federal	$531,043.00	$895.81
Total match		
Total project:	$531,043.00	$895.81

5. Objectives:

a. Establish a Memorandum of Understanding (MOU) with the Ancestral Lands Commission by December 2005.

b. Have a contract in place to conduct a wetland delineation study by March 2006.

c. Obtain permits and approvals from the U.S. Army Corps of Engineers and the Guam Environmental Protection Agency, which is dependant on the wetland delineation study by June 2006.

d. The grant will be amended when the permits are obtained.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. The MOU with Ancestral Lands is no longer necessary, as the land was transferred to Department of Agriculture in June 2006. The wetland delineation was completed by Duenas, Bordallo and Associates in January 2007. The 401 Water Quality Permit was obtained from EPA in January 2008. A waiver for wetland clearing was obtained from Department of Land Management in February 2008. A contractor was selected in March 2009. Grant was amended in May 2009. Additional funds were needed due to high bids from contractors. Final permits and building permit were obtained, and work began in December 2009. Estimated date of completion is February 2010.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. N/A

9. List any publications or in-house reports resulting from this work. None

Name, title, phone number, and e-mail address of person compiling this report: This report was prepared by R. Brent Tibbatts. Fisheries Biologist II, Telephone number 735-3987. E-mail- brent.tibbatts@gmail.com

COOPERATIVE SPORT FISH INVESTIGATIONS
FY2009

SPORT FISH RESTORATION
FY 2009
F-14-R-1

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-14-R-1

Grant name: Guam Sport Fish Investigations

Project number and name: F-14-R-1 Project 1. Management of Guam's Marine Fisheries Resources. Job 1. Population biology and assessment of the thumbprint emperor (*Lethrinus harak*) from the fringing reefs of Guam

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009[extended March 31, 2010]

3. Location of work: Guam, Island-Wide

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X_ or Estimated___**
Federal : Sport Fish Restoration	$255,985	$0
State	-0-	- 0 -
Other:_____	-0-	- 0 -
_____		
_____		
Total Federal	$255,985	$
Total match	-0-	-0-
Total project:	$255,985	$

5. Objectives:

a. Establish a Memorandum of Understanding with the Department of Agriculture and University of Guam Marine Laboratory by December 2007 to sub-grant the project to the marine laboratory.
b. Measure differences in total abundance, density, and biomass of *L. harak* between two selected marine preserves and comparative fished areas using an optimal stratified random design (sensu McCormick and Choat 1987).
c. Conduct benthic surveys in the same areas to determine adult and juvenile habitat preferences.
d. Compare age structures within and outside of marine preserves to establish if there has been an accumulation of older individuals in the preserves since their closure.

e. Evaluate sex-specific variation in growth using Von Bertalanffy growth coefficients, to be incorporated in the stock assessment models (see below).
f. Determine the spawning season of *L. harak* on Guam using monthly gonadosomatic index estimates and changes in maturity status over a 12- month period.
g. Determine the sexual development of *L. harak*, specifically whether its gonochoristic (separate sexes) or hermaphroditic (sex change) using standard histological techniques.
h. Using fecundity estimates quantify relative egg production by individual female *L. harak* and establish if a relationship exists between fecundity and body size and age.
i. Develop age-structure per-recruit models to identify various scenarios that can be used as a guide during the development of a management strategy for this species.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Report pending from cooperator.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

N/A

9. List any publications or in-house reports resulting from this work.

Name, title, phone number, and e-mail address of person compiling this report:

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-14-R-1

Grant name: Guam Sport Fish Investigations

Project number and name: F-14-R-1. Project 1. Management of Guam's Marine Fisheries Resources. Job 2. Assessing patterns of movement and life history traits of the orangespine unicornfish (*Naso lituratus*) and bluespine unicornfish (*N. unicornis*) in relation to marine preserves on Guam

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Guam, Island-Wide

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or

Source	Budgeted	Actual _X_ or Estimated___
Federal : Sport Fish Restoration	$	$
State	-0-	- 0 -
Other:_____	-0-	- 0 -
_____		
_____		
Total Federal	$	$
Total match	-0-	-0-
Total project:	$	$

"Estimated"

5. Objectives:

1. Establish a Memorandum of Understanding between the University of Guam Marine Laboratory and the Department of Agriculture to sub-grant the project (by December 2007).
2. To determine movement distances and quantify population estimates of *N. lituratus* and *N. unicornis* within the marine preserve by using a mark-release-resighting technique which involves visual census of individuals tagged with conventional dart tags within the boundaries of the chosen marine preserve. This will also enable us to identify sex-specific patens of movement and habitat choice by each species (April 2008-July 2008).
3. To quantify differences in stock size between areas open and closed to fishing by using underwater visual census techniques to compare the abundance, size and

distribution of *N. lituratus* over a 1 year period by using a remote acoustic tagging method which includes deploying an array of receivers along the marine preserve boundary (April 2008-May2009).

4. To quantify differences in stock size between areas open and closed to fishing by using underwater visual census techniques to compare the abundance, size and distribution of *N. lituratus* and *N. unicornis* inside the preserves with adjacent areas open to fishing (June-August 2008).
5. To establish if there are any spatial differences in the age structure of populations of *N. lituratus* and *N. unicornis* around Guam, and to estimate sex-specific growth curves (March 2008-April 2009) by otolith analysis.
6. To determine gonadosomatic index for gonad samples collected on a monthly basis through macroscopic and microscopic changes in maturity status (in conjunction with the otolith study) over a 1 year period (March 2008-April 2009). Establishing the frequency and timing of spawning is often the first step in a population assessment of an exploited reef fish species
7. To determine whether *N. unicornis* and N. *lituratus* are gonochoristic (separate sexes) or hermaphroditic (sex-change) by using standard histological techniques (January 2009-July 2009).

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. N/A

9. List any publications or in-house reports resulting from this work.

Name, title, phone number, and e-mail address of person compiling this report:

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-14-R-1

Grant name: Guam Sport Fish Investigations

Project number and name: Project 1. Management of Guam's Marine Fisheries Resources. Job 1. Population biology and assessment of the thumbprint emperor (Lethrinus harak) from the fringing reefs of Guam

2. Report Period: October 1, 2008 to September 30, 2009
Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Guam, Island-Wide

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X_ or Estimated___**
Federal : Sport Fish Restoration	$37,166.00	$
State	-0-	- 0 -
Other:_____	-0-	- 0 -
_____		
_____		
Total Federal	$37,166.00	
Total match	-0-	-0-
Total project:	$37,166.00	

5. Objectives:

1. Measure differences in total abundance, density, and biomass of *L. harak* between two selected marine preserves and comparative fished areas using an optimal stratified random design.
2. Conduct benthic surveys in the same areas to determine adult and juvenile habitat preferences.

3. Compare age structures within and outside of marine preserves to establish if there has been an accumulation of older individuals in the preserves since their closure.
4. Evaluate sex-specific variation in growth using Von Bertalanffy growth co-efficients, to be incorporated in the stock assessment models (see objective 8 below).
5. Determine the spawning season of *L. harak* on Guam using monthly gonadosomatic index estimates and changes in maturity status over a 12-month period.
6. Determine the sexual development of *L. harak*, specifically whether its gonochoristic (separate sexes) or hermaphroditic (sex change) using standard histological techniques.
7. Using fecundity estimates quantify relative egg production by individual female *L. harak* and establish if a relationship exists between fecundity and body size and age.
8. Develop age-structured per-recruit models to identify various scenarios that can be used as a guide during the development of a management strategy for this species.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Objective 1:

Underwater visual surveys were conducted by snorkel following an optimal stratified-random sampling design where the allocation of transects among habitat types was determined using the Neyman formula:

$$n_h = \frac{W_h * s_h * n}{\sum (W_i * s_i)},$$

where n_h represents the number of transects allocated to habitat *h*, W_h is the proportional habitat area, s_h is the estimated standard deviation of the mean fish density in habitat *h*, and n is the total number of transects at the site. The model optimizes the total abundance estimate of *L. harak* by allocating sampling replicates using variance estimates and proportional habitat area.

Total abundance estimates for the four study sites are as follows: 10720 (±1493 95%CI) at Piti Marine Preserve, 18326 (±2584 95%CI) at East Agaña Bay, 48561 (±3062

95%CI) at Achang Marine Preserve, and 6876 (±2503 95%CI) at Rios Bay. At the two sites with the highest densities (Achang and East Agaña), approximately 82% of all individuals occurred within seagrass habitat. Biomass and spawner biomass (biomass of all individuals above minimum size of reproductive maturity) patterns among sites were strongly related to protection status where protected sites had much higher values.

Objective 2:

Habitat-specific size structures of *L. harak* populations at each site were estimated during underwater visual surveys. A comparison of size structures among habitats reveals a clear ontogenetic shift in habitat preference from seagrass as recruits and juveniles to other reef flat habitats as adults. In addition, a comparison of overall size frequency distributions revealed Piti Marine Preserve had a greater abundance of fish in the larger size classes (>20 cm) whereas its comparative fished site East Agaña Bay shows the opposite pattern. At Rios, more than 60% of all *L. harak* observed were between 13 and 19 cm while Achang's population was dominated by fish of virtually all size classes. These differences in the size frequency distributions between sites were also manifest in the mean size estimates. The mean size (cm) of *L. harak* at Piti Marine Preserve was more than double that of East Agaña Bay (21.2 cm ±0.43 SE and 9.8 cm ±0.17 SE). Achang and Rios were more similar at 14.3 cm (±0.26 SE) and 15.1 cm (±0.55 SE), respectively. Comparisons of mean fish size within seagrass habitats at each location reveal a trend of increased size with marine preserve status. A significant interaction between protection status and habitat type (Status*Habitat) confirmed that the mean size of *L. harak* was consistently greater in the protected sites across all habitat types.

Objective 3:

Specimens of *L. harak* were randomly sampled from populations at each of the four sites to evaluate the effectiveness of protected area management on the population biology of the species. Standard otolith ageing techniques were used to assign ages to individuals from the population in order to estimate age structures and growth patterns. Age structures from protected sites were consistently different from sites open to fishing and had a significantly greater mean age. The high proportion of older individuals within protected sites compared with fished sites indicates that a significant build-up of older

age classes has occurred as a result of closure to fishing. In addition, males were found to have a much greater mean age than females, whereas longevities for both sexes were extended within protected sites.

Objective 4:

Growth parameters were found to differ significantly between male and female *L. harak* where females grow faster and reach a smaller asymptotic size. Analysis of growth parameters for populations among sites revealed significant differences in growth, likely driven by density-dependent processes which could be a result of protection from fishing. Comparison of size-at-age plots indicated that East Agaña Bay, which had the lowest total biomass of *L. harak*, had the fastest rate of growth. On the other hand, much slower growth rates were found at Achang and Piti Marine Preserves, which had higher total biomass values.

Objective 5:

Monthly gonadosomatic index values were used to identify the spawning season of *L. harak* on Guam. The lack of a clear trend indicated that either monthly sample sizes of mature individuals were inadequate or that *L. harak* does not vary significantly in spawning frequency throughout the year. Both scenarios are likely true to some extent; monthly sample sizes of mature females did not meet or exceed the target sample size in 11 of 13 months, and reports from other regions have suggested that *L. harak* spawns throughout the year. While no running ripe females were collected, mature active individuals were sampled throughout the year.

Objective 6:

The gonads of 414 *L. harak* individuals were examined using standard histology techniques in order to elucidate the sexual development of the species. Evidence suggests that the species is a protogynous hermaphrodite; individuals develop first as females and later switch sex to males, while a portion remains female throughout life. It still remains unclear whether primary males (individuals that develop first as males and never change sex) are present in the population. Evidence for protogyny include the following: disparities in size and age structures where the older/larger individuals are primarily

males; multiple transitional individuals displaying atretic oocytes and proliferating male material within the same gonad; size and age of transitionals greater than the size and age of female maturity; peripheral dorsal sperm sinuses in male testes; and a remnant ovarian lumen in mature male testes.

Objective 7:

Fecundity was not directly quantified for individuals in this study. Instead, ovary weight for female *L. harak* was used as a proxy for fecundity to reveal relationships between size, age, and reproductive potential. For female *L. harak*, there was a strong relationship between ovary weight and size and age. Our results highlighted the importance of larger, older females to the reproductive success of a population. This is also important information for fisheries management; given the nonrandom selection of larger and older fish in a fishery, management procedures can be modified to ensure sufficient reproductive capacity. With this in mind, protected area management is the only procedure which allows for the build-up of older age classes and, thus, a greater proportion of older females in the population.

Objective 8:

Using growth parameters from the von Bertalanffy growth function and reference points derived from historical catch data provided by the Guam Division of Aquatic and Wildlife Resources, a yield-per-recruit stock assessment model was developed to assess the status of the *L. harak* fishery on Guam and to guide the future management strategy of this species. The optimal age of entry into the fishery is equal to 7 years, which translates to a size of approximately 240 mm FL. Current harvest levels on Guam are much higher than the target level and the age of entry to the fishery is very low. Therefore, we have provided evidence that implementing a minimum size limit for this species would not only increase the total harvest of *L. harak* over time, but will also allow for a much greater reproductive capacity from the entire population.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

N/A

9. List any publications or in-house reports resulting from this work.

This work has resulted in two immediate publications, one which is currently under review and another in preparation, and an anticipated third publication after more histological work has been performed. In addition, the project has resulted in one thesis document which led to the completion of a master's degree at the University of Guam Marine Laboratory. The work was presented at the 11th International Coral Reef Symposium in Ft. Lauderdale, Florida and also at the 8th Indo-Pacific Fish Conference in Fremantle, Western Australia, in June 2009.

Name, title, phone number, and e-mail address of person compiling this report:

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Final Project Performance Report

Guam Division of Aquatic and Wildlife Resources
FY 2008 with no-cost extension

1. State: Territory of Guam

Grant number: F-14-R-1

Grant name: Management of Guam's Marine Fisheries Resources

Project number and name: Project 1. Management of Guam's Marine Fisheries Resources. Job 3. Determination of reef fish spawning aggregation sites on Guam I: western coast surveys

2. Report Period: October 1, 2007 to September 30, 2008, plus no-cost extension into 2009
Report due date: December 31, 2009 [Extended to March 31, 2009 and again to September 30, 2009, Extended to March 31, 2010]

3. Location of work: Island of Guam

4. Costs:

Source	Budgeted	Actual __X__ or Estimated____
Federal :_____	$80,832.00	$51,807.31
State	- 0 -	- 0 -
Other:_____	- 0 -	- 0 -
_____		
_____		
Total Federal	$80,832.00	$51,807.31
Total match	- 0 -	- 0 -
Total project:	$80,832.00	$51,807.31

5. Objectives:

1. To establish a Memorandum of Understanding with the Department of Agriculture and University of Guam Laboratory by December 2007 to sub-grant the project to the Marine Laboratory.

2. To identify resident spawning aggregations sites of parrotfishes and large wrasses along the western coast of Guam by conducting monthly observations during relevant moon phases (new or full) with annual repetition until November 2009. (Transient spawning aggregation triggerfishes (Balistidae) have been added to this objective because of their ease of detection with manta tows and timed-GPS scuba dive surveys.) Thus, the coastline would be surveyed at least twice over a nearly two-year period. Data analysis will begin in December 2008 (first year) and will conclude in December 2009.

3. To characterize and map resident spawning aggregation sites in relation to temporal and spatial factors by assessing the species aggregating, determining the number of male individuals establishing temporary mating territories, describing the habitat type and water depth, describing the temporal factors (i.e., moon phase, tidal state) that contribute toward aggregation formation, and confirming spawning events.

4. To deploy an array of underwater acoustic receivers along the western coast of Guam in order to track the movement of adult spawning fishes bearing coded acoustic tags no later than May 2008 and continue until completed (ca. 7-10 days maximum).

5. To tag (coded acoustic tags) adult groupers (mainly *Epinephelus merra* but also other species of *Epinephelus* captured opportunistically) and snappers (mainly *Lutjanus fulvus* and *L. argentimacultus* also captured opportunistically) collected by hook and line or nets from the inshore waters of the western coast of Guam in order to transmit movement patterns of spawning adults to specific spawning aggregation sites 3-4 months after the beginning of the grant period, before the summer season commences.

6. To characterize transient spawning aggregation sites in relation to temporal and spatial factors by assessing the species aggregating, determining the number of males individuals establishing temporary mating territories, describing the habitat types and water depth, describing the temporal factors (i.e., moon phase, tidal state) that contribute toward aggregation formation, and confirming spawning. Characterization would commence after May 2008 and run through October 2008, and then again once again between March 2009 through October 2009. Data analysis of data will begin no later than December 2008 (first year) and will conclude by December 2009.

7. To correlate species-specific movement of both kinds of species with season, lunar phase, water depth, and geographic features (i.e. benthic structure) to determine the location of spawning aggregations, and the physical attributes that relate to the spatial and temporal patterns of aggregation formation from January 2008 and to November 2009.

8. To produce GIS maps of resident and transient spawning aggregation sites along the western coast of Guam that incorporate aggregation parameters for use in developing and implementing management strategies for the management and conservation of spawning aggregations and sites by November 2009.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Note: A no-cost extension of this project thru 30 September 2009 was obtained. By agreement with the U.S. Fish and Wildlife Service and the Guam Division of Aquatic and Wildlife Resources, this project will continue in the next fiscal year as a stand-alone project entitled:

'Determination of reef fish spawning aggregation sites on Guam III: western coast surveys (Phase III)'.

Objective 1 Outcome: A Memorandum of Understanding was established and in place during FY08 that enabled this project to commence during the fiscal year. Because of the late arrival of acoustic telemetry equipment, the project will be extended in a separate 'stand-alone' project (Determination of reef fish spawning aggregation sites on Guam III: western coast surveys, or 'Phase III').

Objective 2 Outcome: We have conducted manta tow visual surveys between Cocos Lagoon and Ritidian Point, covering approximately 85 km of reef terrace, with additional timed-GPS scuba dive surveys along the reef at Orote Point adjacent to the mouth of Apra Harbor. Each manta tow survey track has been surveyed at least three times. The Orote site has been surveyed 16 times (six each just prior to or at the new and full moons, and four times during first or third quarter phases). We have identified four major parrotfish and 10 minor resident spawning aggregation sites of the parrotfish *Chlorurus sordidus* (Labridae: Scarinae). The major sites are located at Asan off of the War in the Pacific National Historical Park and off Orote Point along the reef opposite the Glass Breakwater at the mouth of Apra Harbor. The Asan site has been well documented by graduate student Kathryn Chop as part of her thesis requirements (a copy of her thesis and presentations, plus additional presentations by the principal investigator, will be provided with project deliverables). Two moderately sized (< 10 males) spawning aggregation sites have been detected for the parrotfish *Scarus schlegeli*. These are located off of Orote Point on pavement at the far edge of the reef, and along the Orote cliff line near "Barracuda Rock". GPS positions of all sites have been recorded. Only a few large wrasses (mainly *Cheilinus undulatus*, Labridae) have been observed, and a single resident spawning aggregation site might be located along the Orote cliffline (this species is nearly extinct locally). The Orote Point site, which is surveyed by timed-GPS scuba dives instead of timed-GPS manta tows, also supports a significant spawning aggregation site for the demersal-spawning triggerfish *Balistoides viridescens* (Balistidae). This site forms just prior to the new and full moons on a monthly basis. Males form temporary territories on the reef bench (4-8m depths), and court and spawn with females there. The eggs are deposited in cracks or holes in the reef pavement. Both males and females depart from the site by the end of the new or full moon day. A similar pattern is followed by the triggerfish *Pseudobalistes flavimarginatus*, except that males of this species build nest cavities in the sand adjacent to reef rock or rubble. A spawning aggregation site with temporary territories and nests of seven males directly adjacent to each other is located in 22m of water off Tipalao Beach, Agat. See (7) and (8) below for more details.

Objective 3 Outcome: Resident spawning aggregation sites of parrotfishes have been identified, although they are widely dispersed yet non-random in distribution. See (2) above for details about parrotfishes and wrasses and (6) below for details on triggerfishes that have been added to the study.

Objective 4 Outcome: As indicated in (5) below, late arrival of funds, excessive procurement delays, and a shortage of boats because of mechanical failures have limited activities to visual surveys. The acoustic telemetry equipment finally arrived and installation of the acoustic array and subsequent tagging of fishes has commenced. Equipment costs have increased dramatically

so we had to reduce the number of acoustic receivers in the array. Therefore, the area in which the array is being deployed is being reduced and will likely focus primarily on the southern part of the west coast of Guam, from Cocos Lagoon as far north and east as Asan. (Since the first draft of this report was submitted, the array of 26 receivers has been installed on the western coast of Guam, between Asan and off the western side of Cocos Lagoon. Significant cost increases prevented the deployment of additional receivers north of Asan as far as Ritidian Point, as had been planned originally. Fish tagging has commenced, and a total of 38 *Epinephelus fasciatus* have been tagged thus far, mainly off of Tipalao Beach, Agat, and Sella Bay. These fishes are being tracked with the passive array. Additional fishes will be tagged off of Piti-Asan as part of Phase III. Data will be downloaded and analyzed during Phase III as well.

Objective 5 Outcome: Thus far, the late arrival of funds, excessive procurement delays and a shortage of boats because of mechanical failures have mainly limited activities to visual surveys. Array installation points have been identified during visual surveys and receivers have been installed. Acoustic tags were received finally and implanted on one species of grouper, *E. fasciatus*. *Epinephelus merra* captured thus far have been too small to tag. We will also be tagging the snapper, *Lutjanus argentimaculatus*; tagging the latter species during Phase III will augment the second phase of the mangrove snapper study (F14R2, second year of separate funding, with no-cost extension granted and no-coast extension requested into FY2010).

Objective 6 Outcome: We have discovered only two transient spawning sites during visual surveys thus far. These are for the titan triggerfish, *Balistoides viridescens* (Balistidae), a species we have added to the project scope of work because of its vulnerability to fishing on spawning aggregation sites. This large species forms an aggregation at least twice monthly (just prior to the new and full moon) adjacent to Orote Point off the first set of exposed beaches at the mouth of Apra Harbor. The second species, *Pseudobalistes flavimarginatus*, that has a similar pattern of behavior, has a small spawning aggregation site off Tipalao Beach, Agat at a depth of 22m. We are gathering acoustic telemetry data from the grouper *E. fasciatus* and will continue to do so through Phase III, the continuation of this project.

Objective 7 Outcome: Resident spawning aggregations of parrotfishes form on a daily basis, during morning hours, and this formation is independent of lunar cycle. Data from the most commonly seen species, *Chlorurus sordidus*, indicates that spawning occurs in the morning and tapers off by 1300H (1 PM) on average. Depths range between 5-20m, usually over pavement, for those parrotfish species observed on aggregation sites thus far. These species include *Chlorurus sordidus* (usually 8-15m except along the Orote cliffline at one location), *Scarus schlegeli* (primarily a deeper species) and *Chlorurus frontalis* (primarily a shallow species). We have no data on transient species except for that of two triggerfish species. The first, the titan triggerfish, *Balistoides viridescens*, forms an aggregation at least twice monthly (just prior to the new and full moon) adjacent to Orote Point off the first set of exposed beaches at the mouth of Apra Harbor. This aggregation site is distributed on pavement at depths of 6-18m. The second, *Pseudobalistes flavimarginatus*, that has a similar pattern of behavior, has a small spawning aggregation site off Tipalao Beach, Agat at a depth of 22m. Both resident and transient spawning aggregation species have mating systems that can be described as being lek-like; males arrive first on the sites and form temporary mating territories that are defended against rival males, while females arrive afterwards and choose males to spawn with. With parrotfishes, there

are also non-territorial immature phase or primary males that resemble females and engage in bouts of group spawning with females at the spawning aggregation site. Territorial terminal phase males recognize these primary males and chase them from their temporary territories.

Objective 8 Outcome: We have been gathering data on the locations of parrotfish resident spawning aggregation sites distributed between Ritidian Point and Cocos Lagoon. Preliminary maps are being generated for these sites. We will be collecting further data. No transient spawning aggregation sites have been detected thus far, except for the titan triggerfish, *Balistoides viridescens*, that forms an aggregation at least twice monthly (just prior to the new and full moon) adjacent to Orote Point off the first set of exposed beaches at the mouth of Apra Harbor. As indicated above, we have the coordinates of a spawning aggregation of the triggerfish *Pseudobalistes flavimarginatus* and will map this accordingly. We are gathering acoustic telemetry data from one species of grouper, *E. fasciatus*, and expect to from the snapper *Lutjanus argentimaculatus* shortly.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. We have added the mangrove snapper, *Lutjanus argentimaculatus*, to the acoustic tagging study in order to augment data collection in a related project (see Objective 5: Outcome, above) in which returns of fishes with standard Floy tags have been poor. These snappers will be tagged and tracked during Phase III, which is a stand-alone extension of the second year of the study reported upon here.

9. List any publications or in-house reports resulting from this work.

No publications have been generated at this time, however three papers are in preparation and four presentations have been given (scientific conferences and a thesis defense). In addition, a Master of Science thesis has been produced and defended successfully by graduate student Kathryn Chop. Copies of the thesis and presentations (Powerpoint) will be provided with the deliverables. Copies of the manuscripts will be provided with the deliverables of Phase III. This list is as follows:

Thesis:

Chop, K.A. 2009. Lek-like behavior of the parrotfish, *Chlorurus sordidus* (Labridae: Scarinae), on a resident spawning aggregation site at Guam, Mariana Islands.

Presentations:

Chop, K.A. Lek-like behavior of the parrotfish, *Chlorurus sordidus* (Labridae: Scarinae), on a resident spawning aggregation site at Guam, Mariana Islands. (Thesis Defense)

Chop, K.A. Lek-like behavior of the parrotfish, *Chlorurus sordidus* (Labridae: Scarinae), on a resident spawning aggregation site at Guam, Mariana Islands. (Abridged)

Chop, K.A. and T.J. Donaldson. The distribution of a parrotfish, *Chlorurus sordidus* (Labridae: Scarinae) resident spawning aggregations at Guam, Mariana Islands.

Donaldson, T.J., K.A. Chop and Z.R. Foltz. Distribution and characterization of resident spawning aggregation sites of the parrotfishes *Chlorurus sordidus* and *Scarus schlegeli* (Labridae: Scarinae).

Donaldson, T.J., Z.R. Foltz and K.A. Chop. Spawning aggregations of two nesting triggerfishes (Balistidae).

Manuscripts in preparation:

Chop, K.A. Lek-like behavior of the parrotfish, *Chlorurus sordidus* (Labridae: Scarinae), on a resident spawning aggregation site.

Donaldson, T.J., K.A. Chop and Z.R. Foltz. Distribution and characterization of resident spawning aggregation sites of the parrotfishes *Chlorurus sordidus* and *Scarus schlegeli* (Labridae: Scarinae).

Donaldson, T.J., Z.R. Foltz and K.A. Chop. Spawning aggregations of two nesting triggerfishes (Balistidae).

Name, title, phone number, and e-mail address of person compiling this report:
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Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-14-R-1

Grant name: Guam Cooperative Sport Fish Investigations

Project number and name: F-14-R-1. Project 2. Guam Sport Fish Aquatic Education Job 1. Professional, Interactive, Portable Educational Displays.

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Guam Island-wide

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	Budgeted	Actual _X__ or Estimated__
Federal :_____	$70,000	-0-
State		
Other:_____		
_____		
_____		
Total Federal	$70,000	-0-
Total match		
Total project:	$70,000	-0-

5. Objectives:

1. Establish a Memorandum of Understanding with the Department of Agriculture and the Bureau of Statistics and Plans (BSAP) to sub-grant the project to BSAP by December 2008.
2. Contract a services to a professional by February 2009 to:
    a. Create a variety of displays including a 3-dimensional model of Guam's coral reef ecosystem.
    b. Create crafted messages pertaining to the importance of Guam's cultural fishing traditions, and the relationship with the island's coral reefs as habitats.

3. Consolidate all resource information in an accessible location that can easily be obtained by everyone by September 2009.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

During FY09, the memorandum of understanding (MOU) between the Bureau of Statistics and Plans (BSAP) and the Department of Agriculture was updated to reflect FY09. However, funds under the MOU could not be certified because problems occurred relating to the re-establishment and loading of funds. The problem with the grant was eventually resolved but near the end of the fiscal year leaving no time to route the MOU for signature and meet the deadline to submit bids over $15,000. The Department will re-submit the MOU for signature during FY10.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

See #7 above.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:

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SPORT FISH RESTORATION
FY 2009
F-14-R-2

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-14-R-2

Grant name: Guam Sport Fish Investigations

Project number and name: Project 1. Management of Guam's Marine Fisheries Resources. Job 2 .Characterization of Mangrove Snapper Spawning Aggregations and Sites in Selected Outer Estuarine Bays of Guam, Phase II

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [no-cost extension requested, Extended to March 31, 2010]

3. Location of work: Island of Guam

4. Costs:

Source	**Budgeted**	**Actual __X__ or Estimated____**
Federal :_____	$38,781	$4,093.56
State	- 0 -	- 0 -
Other:_____	- 0 -	- 0 -
_____		
_____		
Total Federal	$38,781	$4,093.56
Total match	- 0 -	- 0 -
Total project:	$38,781	$4,093.56

5. Objectives:

1. Revise Establish a Memorandum of Understanding with the Department of Agriculture and University of Guam Marine Laboratory by December 2006 to sub-contract the project to the marine laboratory.
2. Tagging of mangrove snapper (*Lutjanus argentimaculatus*) adults collected in rivers and estuaries of three or more river systems of Guam to determine if spawning adults in a given aggregation are from a single river system or from multiple systems.

3. Identification of mangrove snapper spawning aggregation sites in outer bays and reef fronts of the river systems surveyed.
4. Characterization of mangrove snapper spawning aggregations.
5. Characterization of spawning aggregation sites utilized by mangrove snappers.
6. Production of GIS maps of mangrove snapper spawning aggregation sites that incorporate aggregation parameters for use in developing and implementing management strategies for the spawning aggregations and sites.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Note: This project was terminated under the old system of project awards and replaced with a stand-alone award that applied through 2009; a no-cost extension request for this second phase has been requested for 2010.

Objective 2 and 3: In addition to observing mangrove snappers in the Pago, Ylig, and Talofofo rivers, we have identified adult habitats along the western coast of southern Guam, between Cetti Bay and Cocos Island. We shifted the focus from capturing and tagging fishes to capturing and tagging large adults with bioacoustic tags. These tags, size 13mm, were originally intended for use with groupers but because large groupers are difficult to find consistently we have opted to use a subset of these tags on mangrove snappers instead. For detecting mangrove snappers on both southwestern and southeastern (Cocos Lagoon to Pago Bay) we have installed or are completing installation of a small array of hydrophone/receivers (the installation time-table was subject to really excessive procurement delays). Receivers installed on the southwestern coast do double duty as they are already recording data from groupers tagged in the area (see F14R-1 report; this project continues as Phase III as a stand-alone project). The receivers installed on the southeastern coast will also do double duty, tracking mangrove snappers but also groupers that will be tagged between Cocos Lagoon and Pago Bay. Sea states, passing storms, and boat use limitations (the Marine Laboratory continues to suffer on this front because of a lack of vehicles and a demand to use the one remaining vehicle at its disposal- this is frustrating but the problem should be solved by January, 2010, when new vehicles are expected to arrive- meanwhile, I am using a kayak and my private vehicle, at no cost to the project, to continue tagging efforts). I continue to expect that mangrove snappers will migrate to one or more spawning aggregation sites between June-September. A collection of fish-specific signatures detected by the acoustic array will allow us to track movement patterns to one or more of these sites. Active tracking with a hydrophone will allow us to pinpoint that location. Once located, we can characterize the site to our best ability given possible dive-depth limitations. This ability will be enhanced with the use of a GPS-linked fathometer.

Objective 4: No spawning aggregation sites have been identified yet but data collection continues.

Objective 5: No spawning aggregation sites have been identified yet and so no reproductive behavior has been observed.

Objective 6: No spawning aggregation sites have been identified yet. Results should include GIS bathymetric mapping of the spawning aggregation site(s).

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. As stated above, this phase of the study includes the use of bioacoustic telemetry and a wider range of tagging sites in an attempt to solve the problem of poor returns for fish tagged with conventional Floy tags alone. The use of bioacoustic telemetry is fortuitous and done at no additional cost to the project.

9. List any publications or in-house reports resulting from this work. N/A

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SPORT FISH RESTORATION
FY 2009
F-14-R-3

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-14-R-3

Grant name: Guam Sport Fish Investigations

Project number and name: F-14-R-3 Analyzing and Assessing Recreational Impacts on Coral Reef Habitat and Determining a Carrying Capacity Within Marine Preserves.

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Piti Bomb Holes Marine Preserve and Tumon Bay Marine Preserve

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	Budgeted	Actual _X_ or Estimated _ _
Federal :	$100,000	$491.00
State		
Other:_____		
_____		
_____		
Total Federal	$100,000	$491.00
Total match		
Total project:	$100,000	$491.00

5. Objectives:

a. To obtain a contract to conduct a Limits of Acceptable (LAC) process by March 31, 2009 and complete the process within a year.
b. To create awareness to the public about the impacts to the coral reef fisheries and habitat so responsible attitudes can be developed towards these resources.
c. To conserve and manage fisheries and recreational activities within the preserves by developing an implementation and monitoring plan for the Tumon Bay and Piti Bomb Holes marine preserves to prevent impacts and depletion of the coral reef fisheries and habitat.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

A scope of work was developed in fiscal year 2008 for the project under the F-1-R-15 grant using the limits of acceptable change (LAC) process. This process is a value driven process involving the community as well as scientist and managers using a bottom up approach. During FY08, the project was bidded out. However, potential bidders requested additional time up to April 2009 to the complete the project because of the planning, meetings, and time it would take to draft the document. Because F-1-R-15 was not going to be extended after FY08, potential bidders did not submit any bids for the project.

The project was made into a two-year standalone project through FY09 to FY10 and re-bidded out in FY09. A local environmental consulting company was awarded the contract. Agriculture met with the company and other local resource agencies to discuss and plan the LAC process. The first round of meetings were held on September 8, 2009 at the Tamuning Senior Citizens Center and September 10, 2010 at the Piti Community Center. Announcements for the two public meetings were made through a variety of media outlets. Agriculture sent a news release to various local news organizations including KUAM, Pacific News Center, Guam Pacific Daily News and the Marianas Variety. Advertisements were also placed in both of these newspapers the day prior to each meeting, and notices were provided to the Mayors of Tamuning and Piti to be placed in their weekly bulletins. On K57's Ray Gibson and Patty Aroyo's shows, Jay Gutierrez, Assistant Chief of DAWR, provided interviews announcing the time of the meetings and explaining their purpose. A presentation was also given to Guam Hotel and Restaurant Association's (GHRA) Engineer and Environmental Committee on September 8, 2009. Furthermore, invitation letters were both faxed and emailed to various stakeholders

The purpose of these initial meetings was to present information on the history of Guam's marine preserves, the marine resources within the preserves, and an overview of the LAC process. The presentations were followed by a working session in which participants began the first two steps of the LAC process, which are 1) Identifying values and issues and 2) Describing opportunity classes/zones. For Tumon Bay, the majority of the values identified for were related to recreational activities. The most important issues identified related to impacts to the marine environment caused by pollution, rainwater runoff, growth and development, and recreational activities. In terms of describing opportunity classes, this exercise was not very successful at the Tumon Bay planning session. Participants were unsure how to proceed in describing opportunity zones and had a hard time thinking conceptually or coming to a consensus with the rest of their group. One group had some success and was able to describe conditions for three hypothetical zones. However, the exercise for Tumon Bay will need to be repeated in future meetings. For Piti Bay, the main values identified were related to recreational uses, economic benefits, and the biological diversity in the area. The issues most important to participants were impacts to this bay due to sedimentation, recreational activities, and illegal activities. The exercise describing opportunity classes was more successful at the Piti Bomb Holes planning session. Groups were able to describe resource, social and managerial conditions for four hypothetical zones.

Participants were asked to fill out feedback forms at the end of the meetings. Overall for both meetings, the feedback was positive. The major complaint was that the meetings ran too long at three hours. The meetings were successful at bringing together different interest groups, including fisherman, commercial dive and tour operators, hotel management, various government and resource agencies, and members of the general public who utilize the bays for

recreational and educational purposes. These representatives were able to discuss their values and issues with the marine preserves.

The next round of public meetings will be scheduled for November 2009 and will focus on selecting indicators of desired social and environmental conditions (Step 3 of the LAC process).

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. NA

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:

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SPORT FISH RESTORATION
FY 2009
F-14-R-4

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources
FY 2009

1. State: Territory of Guam

Grant number: F-14-R-4

Grant name: Management of Guam's Marine Fisheries Resources

Project number and name: Determination of reef fish spawning aggregation sites on Guam II: northern and eastern coast surveys

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009; this is a two-year project [Extended to March 31, 2010]

3. Location of work: Island of Guam

4. Costs:

Source	Budgeted	Actual __X__ or Estimated____
Federal :_____	$91,077.00	$0
State	- 0 -	- 0 -
Other:_____	- 0 -	- 0 -
_____		
_____		
Total Federal	$91,077.00	$0
Total match	- 0 -	- 0 -
Total project:	$91,077.00	$0

5. Objectives:

1. Establish a Memorandum of Understanding with the Department of Agriculture and University of Guam Marine Laboratory by December 2008 to contract the project to the Marine Laboratory.

2. Identification through direct observation of resident spawning aggregation sites of parrotfishes and large wrasses along the western coast of Guam would begin after the Memorandum of Understanding is formalized (ca. January 2009) with observations made monthly during relevant moon phases (new or full) along successive legs run along the coastline, with annual repetition until November 2010). Thus, the coastline would be surveyed at least twice over a nearly two-year period. Data analysis will begin in

December 2008 (first year) and will conclude in December 2010.

3. Characterization and mapping of resident spawning aggregation sites in relation to temporal and spatial factors. Sites will be identified first, then revisited immediately afterwards for characterization. Characterization includes assessment of the species aggregating, the number of male individuals establishing temporary mating territories, a description of the habitat type and water depth, a description of the temporal factors (i.e., moon phase, tidal state) that contribute toward aggregation formation, and the confirmation of spawning. Data analysis will begin no later than December 2009 (first year) and will conclude by December 2010.

4. Deployment of an array of underwater acoustic receivers along the western coast of Guam in order to track the movement of adult spawning fishes bearing coded acoustic tags. Deployment will begin no later than May 2009 and continue until completed (ca. 7-10 days maximum).

5. Tagging (coded acoustic tags) of adult groupers (mainly *Epinephelus merra* but also other species of *Epinephelus* captured opportunistically) and snappers (mainly *Lutjanus fulvus* and *L. argentimaculatus* also captured opportunistically) collected by hook and line or nets from inshore waters of the western coast of Guam in order to transmit movement patterns of spawning adults to specific spawning aggregation sites. Tagging will begin after the Memorandum of Understanding is formalized, the release of funding, and the purchase of equipment and supplies. Realistically, tagging will commence 3-4 months after the beginning of the grant period, before the summer season commences (May 2009, after deployment of the acoustic array), and will continue, with tracking, until 1 October 2010. Data analysis should be completed by December 2010.

6. Characterization of transient spawning aggregation sites in relation to temporal and spatial factors. Characterization includes assessment of the species aggregating, the number of male individuals establishing temporary mating territories, a description of the habitat type and water depth, a description of the temporal factors (i.e., moon phase, tidal state) that contribute toward aggregation formation, and the confirmation of spawning. Characterization would commence after May 2009 and run through October 2009, and then again between March 2010 through October 2010. Data analysis will begin no later than December 2009 (first year) and will conclude by December 2010.

7. Correlation of species-specific movements of both kinds of species with season, lunar phase, water depth, and geographic features (i.e. benthic structure) to determine the location of spawning aggregations, and the physical attributes that relate to the spatial and temporal patterns of aggregation formation. This work would commence in January 2009 and conclude in November 2010.

8. Production of GIS maps of resident and transient spawning aggregation sites along the western coast of Guam that incorporate aggregation parameters for use in developing and implementing management strategies for the management and conservation of spawning aggregations and sites. This work would begin in January 2009 and conclude in

November 2010.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Note: The start date of this project was delayed because Memorandum of Understanding was not obtained until well into the first fiscal year for this two-year project.

Objective 2 Outcome: We have conducted manta tows, weather permitting, from the southern tip of Cocos Island north to just south of Talafofo Bay. Survey periods were also constrained because of mechanical difficulties and shortages of both available boats and pick-up trucks to tow the boats. (This problem has been solved with the arrival of two new pickup-trucks in December, 2009.) We have discovered only a single small n = five terminal phase male *Chlorurus sordidus*) resident parrotfish spawning aggregation site within the area surveyed thus far, although some individual spawning terminal phase males were observed sporadically.

Objective 3 Outcome: We are still collecting data to meet this objective.

Objective 4 Outcome: Because of sharply increased costs of acoustic telemetry receivers we are limiting the deployment to southeastern and east central Guam, from Cocos Island north to Pago Bay. Receiver deployment will be concentrated near the mouths of rivers and bays in order to be able to detect mangrove snappers in addition to groupers.

Objective 5 Outcome: Because of the late arrival of acoustic tags, we are just beginning to meet this objective.

Objective 6 Outcome: We are still collecting data to meet this objective.

Objective 7 Outcome: We are still collecting data to meet this objective.

Objective 8 Outcome: We are still collecting data to meet this objective.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. We have added the mangrove snapper, *Lutjanus argentimaculatus*, to the acoustic tagging study in order to augment data collection in a related project in which returns of fishes with standard Floy tags have been poor.

9. List any publications or in-house reports resulting from this work.

Results for resident spawning aggregation species (parrotfishes) and two transient spawning aggregation species have contributed to two presentations at scientific conferences with the preparation of one manuscript currently underway.
Copies of all will be provided as deliverables.

Presentations:

Chop, K.A. and T.J. Donaldson. The distribution of a parrotfish, *Chlorurus sordidus* (Labridae: Scarinae) resident spawning aggregations at Guam, Mariana Islands.

Donaldson, T.J., K.A. Chop and Z.R. Foltz. Distribution and characterization of resident spawning aggregation sites of the parrotfishes *Chlorurus sordidus* and *Scarus schlegeli* (Labridae: Scarinae).

Manuscripts in preparation:

Donaldson, T.J., K.A. Chop and Z.R. Foltz. Distribution and characterization of resident spawning aggregation sites of the parrotfishes *Chlorurus sordidus* and *Scarus schlegeli* (Labridae: Scarinae).

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SPORT FISH RESTORATION
FY 2009
F-14-R-5

Interim Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-14-R-5

Grant name: Guam Sport Fish Investigations

Project number and name: F-14-R-5 Connectivity of Reef Fish Populations

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Piti Bomb Holes Marine Preserve and Tumon Bay Marine Preserve

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	Budgeted	Actual _X_ or Estimated __
Federal :	$199,235	$ 99,617
State		
Other:_____		
_____		
_____		
Total Federal	$199,235	$ 99,617
Total match		
Total project:	$199,235	$ 99,617

5. Objectives:

Pending report from Cooperator.

SPORT FISH RESTORATION
FY 2009
F-14-R-6

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-14-R-6

Grant name: Guam Sport Fish Investigations

Project number and name: Field Guide "Marine Plants of Guam"

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Guam, Island-wide

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	Budgeted	Actual X or Estimated
Federal: Sport Fish Restoration	$17,500	0
State:		
Other: Coral Reef Initiative	$18,780	0
Total Federal	$17,500 (excluding other)	0
Total project:	$17,500	0

5. Objectives

a. Focus fieldwork to collect and photograph missing taxa. Take microscopic photographs of diagnostic characters based on an extensive slide collection established by the Coral Reef Ecosystem Division (CRED, NOAA, Hawaii) during the Marianas Archipelago Reef Assessment and Monitoring Program (MARAMP) cruises.

b. Image processing of all photographs.

c. Production of distribution maps for genera and species based on literature data. Obtain essential and new literature sources.

d. Ongoing database entry: species observations and descriptions; adding information on

voucher specimens.

e. Establish an effective, time-efficient methodology for monitoring algal communities in Guam. A chapter of the field guide will be dedicated to describe the latter technique and will include field survey forms.

f. Finalize the project and export the database to a PDF document. Professional assistance to improve the layout of the draft version of the field guide. Digital distribution of the field guide.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

NA

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Most objectives of FY'09 have been completed. Through research surveys and contract work we have increased the number of specimens in the voucher collection and the amount of habit pictures. Research assistant, Joost den Haan, has done a thorough literature review and entered descriptions of about 200 taxa in the database. At the same time have been digitizing label information of all marine plants in the GUAM herbarium. We also geo-referenced the herbarium specimens in order to prepare maps of species distributions in Guam. In addition, we have also compiled a database of species distributions in the world to provide global distribution maps of the taxa included in the field guide. The global distribution maps of the 200 species and the species richness maps of the relevant genera and families (Fig. 1) are ready. We are currently working on the local distribution maps for Guam. We are also in the process of sending 553 silica-dried samples of 269 species to the global DNA barcode initiative. We will try to add this barcode data to the field guide.

So far, the conducted work follows the proposed work objectives and goals. The completion date, however, is expected to be postponed to 2010 due to the delay in funding of the Sport Fish Restoration Grant (MOU was only signed mid 2009). We have some outstanding expenses to settle (fee for use of the scanning electron microscope) before we can proceed with taking SEM pictures of coralline algae. We also plan to take more microphotographs of selected species in 2010.

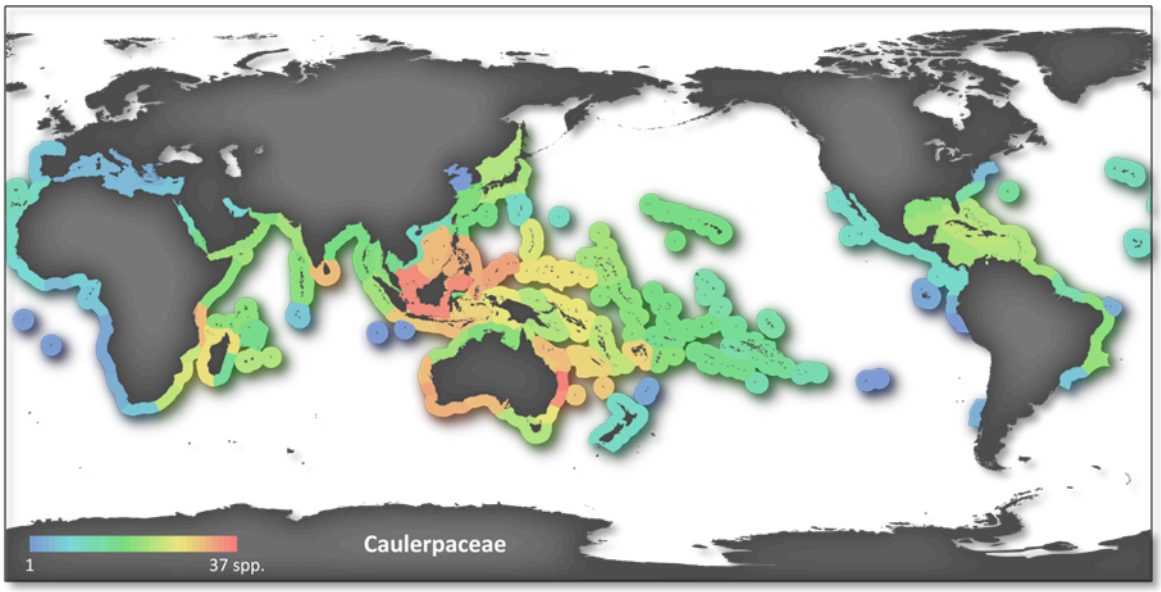

Fig. 1. Example of a global species richness map of the family Caulerpaceae that will be used in the field guide.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

So far, the conducted work follows the proposed work objectives and goals. The completion date, however, is expected to be postponed to 2010 because of the delay in funding (see above).

In order to finalize the project, we request an extension of the grant until the end of 2010. This will allow us to settle the outstanding expenses and will enable us to continue taking the necessary microphotographs. Thereafter, we will proceed with compiling the text of the field guide.

9. List any publications or in-house reports resulting from this work.

A poster on the field guide project was presented at the Guam Coral Reef Symposium (April 19, 2008).

A second presentation on the status and progress of the field guide project was delivered on March 12, 2009 during an on-island visit of the USFW grantors. Both documents are added as attachments.

Both documents are added as attachments.

Name, title, phone number, and e-mail address of person compiling this report:

Tom Schils – Assistant Professor UOGML – 735-2185 – tom@schils.be

SPORT FISH RESTORATION
FY 2009
F-14-R-7

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources
FY 2009

1. State: Territory of Guam

Grant number: F-14-R-7

Grant name: Management of Guam's Marine Fisheries Resources

Project number and name: Project 1. Management of Guam's Marine Fisheries Resources. Job 7. Assessing Guam's reef fish spawning aggregations

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [Extended to March 31, 2010] [no-cost extension requested]

3. Location of work: Island of Guam

4. Costs:

Source	Budgeted	Actual __X__or Estimated____
Federal :_____	$28,100	$0
State	- 0 -	- 0 -
Other:_____	- 0 -	- 0 -
_____		
_____		
Total Federal	$28,100	$0
Total match	- 0 -	- 0 -
Total project:	$28,100	$0

5. Objectives:

1. Compile and analyze 20-years of historical creel data, plus local commercial data, to obtain evidence of spatial and temporal patterns of reef fish spawning aggregation formation as inferred from fisheries interactions documented in creel and commercial surveys.

2. Determine the species identity, date and time of capture, tidal state, and moon phase, and relate to geographic point of capture.

3. Correlate results with those of ongoing projects underway at the University of Guam Marine Laboratory that examine the spatial and temporal patterns of reef fish spawning aggregation formation and function.

4. Plot results onto a GIS map of coastal Guam in an attempt to infer probable reef fish spawning aggregation sites of selected species, and report these data to a limited access global database of reef fish spawning aggregations maintained by the Society for the Conservation of Reef Fish Aggregations (DAWR will have access).

5. Present results at a scientific meeting in a special session on the conservation and fisheries management of reef fish spawning aggregations.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Note: a no-cost extension for the completion of this project has been requested.

Objective 1 Outcome: Despite difficulties in using the original database program, now no longer supported by the vendor, we have managed to examine and analyze some of the data, mainly from resident spawning aggregation species such as parrotfishes. We are continuing work on transient spawning aggregation species but will require a no-cost extension in order to complete the project.

Objective 2 Outcome: Data analysis is still underway. We have learned that these data are not useful for determinations of daily spawning aggregation activity by those species that utilize resident spawning aggregation behavior. We will attempt, however, to correlate patterns of harvest of such species (i.e., parrotfishes) with data from known resident spawning aggregation sites obtained from another project in order to determine if some sites were depleted of resident males (i.e. parrotfishes), thus explaining possibly why spawning aggregation sites are so few along the western coast of Guam. Analysis of transient reef fish spawning aggregation species data is still underway.

Objective 3 Outcome: The analysis of data is still being undertaken so comparisons with data obtained from other reef fish spawning aggregation studies has not yet been made.

Objective 4 Outcome: The analysis of data is still being undertaken. Locality information from the data sets will be entered into a GIS program in an attempt to infer probable reef fish spawning aggregation sites based upon honest reporting of fishing locations.

Objective 5 Outcome: The analysis is still being undertaken. No results are ready for presentation at a scientific meeting on the conservation and management of spawning aggregations.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between

expected and actual costs. N/A

9. List any publications or in-house reports resulting from this work. N/A

Name, title, phone number, and e-mail address of person compiling this report:
Dr. Terry Donaldson, University of Guam Marine Laboratory, (671) 735-2175,
donaldsn@uguam.uog.edu

NOTE: Because of delays, it will be necessary to request a no-cost extension of this project in order to continue data analysis and interpretation, and prepare the results of this study.

SPORT FISH RESTORATION
FY 2009
F-14-R-9

Interim Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Territory of Guam

Grant number: F-14-R-9

Grant name: Guam Sport Fish Investigations

Project number and name: F-14-R-9 Recruitment sources and dynamics of unicorn fish *Naso unicornis,* on fringing reefs of Guam

Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009[Extended March 31, 2010]

3. Location of work: Guam:

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X_ or Estimated__**
Federal : Sport Fish Restoration	$44, 205	$ 22,102.50
State	-0-	
Other:_____	-0-	
_____		
_____		
Total Federal	$44, 205	$ 22,102.50
Total match	-0-	
Total project:	$44, 205	$ 22,102.50

5. Objectives:

Report pending from Cooperator.

SPORT FISH RESTORATION
FY 2009
F-14-R-10

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-14-R-10

Grant name: Guam Sport Fish Investigations

Project number and name: Project 1. Management of Guam's Marine Fisheries Resources. Job 10. Assessing Patterns of Movement, Recruitment, and Spawning Frequency of *Lethrinus harak* in Relation to Guams Marine Preserves

2. Report Period: October 1, 2008 to September 30, 2009

3. Location of work: Guam, Island-Wide

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X_ or Estimated___**
Federal : Sport Fish Restoration	$132,195.00	$66,097.50
State	-0-	- 0 -
Other:_____	-0-	- 0 -
_____		
_____		
Total Federal	$132,195.00	$66,097.50
Total match	-0-	-0-
Total project:	$132,195.00	$66,097.50

5. Objectives:

1. Establish a contract between the University of Guam Marine Laboratory (UOGML) and Department of Agriculture through the signing of a Memorandum of Understanding (by January 2009)
2. To determine movement distances and quantify population estimates of *Lethrinus harak* within the marine preserves we will use a mark-release-resighting technique which involves visual census of individuals tagged with elastomer tags within the boundaries of Achang and Piti marine preserves. This will also enable us to identify sex-specific patterns of movement and habitat.

3. We will use a remote acoustic tagging method which includes deploying an array of receivers along the Achang and Piti marine preserve boundaries to quantify movement patterns, residency times and home range size of individually tagged *L. harak* over a 2 year period.
4. Establishing the frequency and timing of spawning is often the first step in a population assessment of an exploited reef fish species. We will use a non-destructive sampling method to observe changes in gonad stages of female individuals over a twelve month period with sampling intensified (every few days) during suspected times of spawning.
5. We will determine the timing, frequency, and habitat specificity of recruitment using fortnightly surveys over a twelve month period and back-calculation of otolith daily increments from juvenile specimens collected throughout the project's duration.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Objective 1:

The processing of the Memorandum of Understanding began April 2009 and was completed when signed by Governor Felix Camacho on 12 May 2009.

Objective 2:

Not started due to administrative delay in employing Co-PI (see 8. below)

Objective 3:

By the end of the report period, acoustic telemetry equipment had been purchased from VEMCO and the array of acoustic receivers had been successfully deployed throughout the Piti Marine Preserve (see attached map of acoustic array) and 12 individual *Lethrinus harak* were captured by hook-and-line and held at the UOGML until surgical tag implantation in early October.

Objective 4:

Not started due to administrative delay in employing Co-PI (see 8. below)

Objective 5:

Not started due to administrative delay in employing Co-PI (see 8. below)

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

Due to considerable delay in the processing of the Memorandum of Understanding (12 May 2009) and further delay in the hiring of the Co-PI responsible for conducting the fieldwork for this study (hire date: 1 September 2009), few research objectives had been met by the end of the 2009 performance report period (30 September 2009).

9. List any publications or in-house reports resulting from this work.
N/A

Name, title, phone number, and e-mail address of person compiling this report:
Brett M. Taylor, Research Associate, University of Guam Marine Laboratory, Work: 671-735-2180 Mobile: 671-688-5961, brettmtaylor@gmail.com

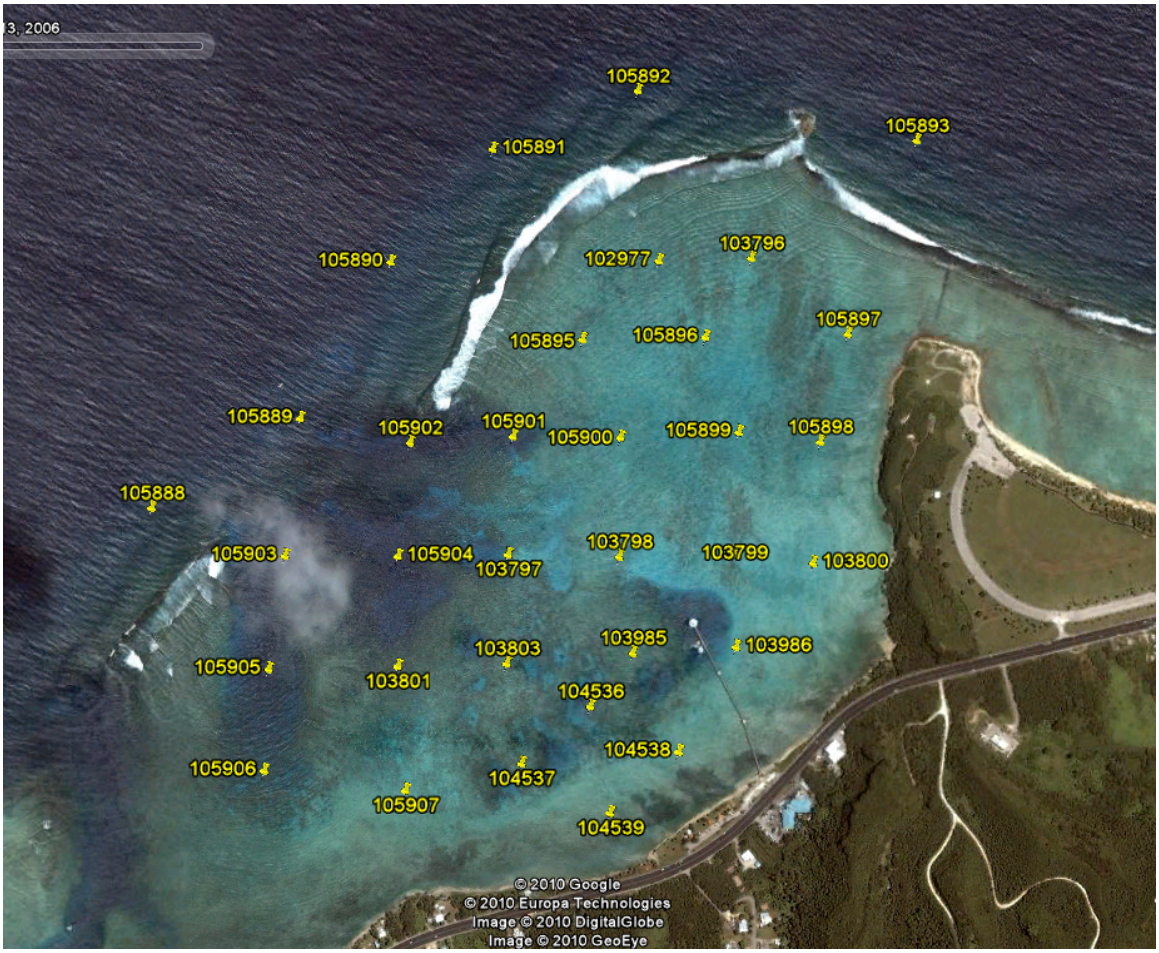

Figure 1. Map of Piti Marine Preserve showing locations of receivers and receiver codes.

SPORT FISH RESTORATION
FY 2009
F-14-R-11

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Territory of Guam

Grant number: F-14-R-11

Grant name: Guam Sport Fish Investigations

Project number and name: Guam Natural Resource Attorney Services
Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009

3. Location of work: Guam:

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X__ or Estimated__**
Federal : Sport Fish Restoration	$54,000	$0
State	-0-	
Other:_____	-0-	
_____		
_____		
Total Federal	$54,000	$0
Total match	-0-	
Total project:	$54,000	$0

5. Objectives:

a. To establish a Memorandum of Understanding with the Attorney General's office to subgrant funds for an attorney.

b. To have an attorney provide legal reviews and assistance related to the Department's authority and to the Sport Fish Restoration Program.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

GDAWR has worked on a variety of marine protective area projects and contemplates substantially more work being done in the current fiscal year. In this respect GDAWR

contemplates requesting that the Guam Attorney General's office assign an attorney at least half time for the remainder of the fiscal year.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

9. List any publications or in-house reports resulting from this work. N/A

10. Name, title, phone number, and e-mail address of person(s) compiling this report:

Thomas P. Keeler, Assistant Attorney General, (671) 475-3324 Ext. 238
tkeeler@guamattorneygeneral.com

SPORT FISH RESTORATION
FY 2009
F-15-E-1

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources (GDAWR)
FY 2009

1. State: Territory of Guam

Grant number: F-15-E-1

Grant name: Guam Sport Fish Investigations

Project number and name: F-15-E-1: Maintenance and repairs to MPA educational signs

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009

3. Location of work: Guam: Achang, Piti Bay, Tumon Bay, Sasa Bay, Asan, Hagatna Boat Basin, Agat Marina

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X_ or Estimated _**
Federal : Sport Fish Restoration	$23,822	$7932.26
State	-0-	
Other:_____	-0-	
_____		
_____		
Total Federal	$23,822	$7932.26
Total match	-0-	
Total project:	$23,822	$7932.26

5. Objectives:

1. To replace and maintain missing and damaged MPA Educational Signs and the ten (10) foot breakaway poles, which are located along the five (5) marine preserves. There are currently sixty-two (62) roadside and shoreline signs at the MPA sites.

2. To adequately trim vegetation around the roadside marine preserve signs to ensure that the signs are visible to the public.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A
7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Objective 5a was accomplished for this reporting period. The Division of Aquatic and Wildlife Resources (DAWR) had sent a scope of work to the General Services Agency to solicit proposals to maintain and repair the signs. A contract with a vendor to maintain and repair the signs through the Request for Proposals (RFP) process was awarded to D&R Maintenance on April 1, 2009 in the amount of $3,300.

The MPA shoreline regulation signs are found above the high tide watermark and the roadside signs are found along the roadway facing the oncoming traffic. Hagatna Boat Basin and Agat Marina currently have one sign located adjacent to the boat ramp area. Subsequently, due to the exposure of weather elements, vandalisms, and vegetation growth the scope of work entails that these signs are maintained, replaced, and/or re-installed, to include painting of the shoreline sign frames for a six month period. The shoreline and roadside signs, poles, nuts, bolts, screws and plates are to be inspected, replaced, tightened and brush painted if necessary, twice a month, at a fourteen day intervals.

The scope of work to upkeep, inspect, maintain, and repair the MPA educational ***roadside*** sign twice a month for the following areas: Achang 10 signs,. Sasa bay 8 signs , Tumon bay 16 signs, and Piti 9 signs. The ***shoreline*** signs for the contract per scope of work indicated for the following areas: Piti bay 3 signs and Tumon bay 10 signs.. In addition, there are two ***boat launch*** areas where additional signs are located adjacent to the ramp areas: Hagatna boat basin - 1 sign and Agat marina -1 sign.

A special permit from the Government of Guam's Department of Agriculture was issued to DNR Maintenance in order to carry out the job tasks awarded. Invoices were sent to the department on a two month interval for the sum of $1,100.00.

DNR maintenance provided monthly inspection dates with specifics to the scope of work to the Department from April 1, 2009 through the end of FY09

Table 1. The list the dates of scheduled work days per months with specifics as to the repairs and activities completed per month for the ***roadside*** signs maintenance and repairs from April 2009-September 2009 contract activity log.

Achang	Tumon	Piti	Sasa Bay	Asan War in the Pacific
10 sign poles and Painting completed April 1, 2009 11 signs okay nuts and bolts	16- signs Painting completed as of April 13, 2009	9 signs-Painting completed as of April 6, 2009	8 signs-Completed painting as of April 2, 2009	1 shoreline sign repaired and painted as of April 13, 2009
Inspected road side signs (11) on the 2nd and 18th of May	Inspected road side signs on the 2nd and 18th of May	Inspected road side signs on the 2nd and 18th of May	Inspected road side signs on the 2nd and 18th of May	Inspected road side sign on the 2nd and 18th of May
Inspected road side signs (11)on the 2nd	Inspected road side signs on the 2nd and the 16th of June	Inspected road side signs on the 2nd and the 16th of June. Replaced	Inspected road side signs on the 2nd and the 16th	Inspected road side sign on the 2nd and the 16th of June

and the 16th of June		1- roadside sign, bolts and nuts at Piti Bomb hole preserve on the 17th of June.	of June	
Inspected road side signs(11) on the 5th and the 18th of July	Inspected road side signs on the 5th and the 18th of July	Inspected road side signs on the 5th and the 18th of July	Inspected road side signs on the 5th and the 18th of July	Inspected road side sign on the 5th and the 18th of July
Inspected road side signs, bolts and nuts on the 2nd and 16th of August	Inspected road side signs, bolts and nuts on the 2nd and 16th of August removed stickers found on 4 roadside signs	1 sign removed and reinstalled by contractors of DPW for the road safety railings project. Inspected installation to the footing, foundation, bolts and nuts, all was found to be okay on the 2nd and 16th of August	2 signs removed and reinstalled by contractors of DPW for the road safety railings project. Inspected installations to the footing, foundation, bolts and nuts, all was found to be okay on the 2nd and 16th of August	Inspected roadside sign in war in the pacific on the 2nd and 16th of August and vegetation removal for clear visibility to the public to include 2ft perimeter cut
Inspected and one sign by bridge taken on 9-19-2009 needs repair to pole due to rust cracks found by footing. Completed and reinstalled on October 8, 2009	Inspected all roadside signs on the 2nd and 25th of September. Sticker removal to several signs on the roadside.	September one roadside sign issued by S. Wusstig DAWR for replacement to united sea men's club on bridge Sept. 2nd and 25th 2009 maintenance all okay to footing, nuts, bolts and signs.	Inspected all roadside signs footings, bolts and nuts. All in good condition for September 2nd and 25th 2009 maintenance all okay to footing, nuts, bolts and signs	Inspected all roadside signs footings, bolts and nuts. All in good condition for September 2nd and 25th, 2009.

Table 2 lists the dates of scheduled work days per months with specifics as to the repairs and activities completed per month for the ***shoreline*** signs maintenance and repairs.

Achang	Tumon	Piti	Sasa Bay
Zero signs	10 signs- Grinding, Painting & replacement completed as of April 15, 2009	4 signs- grinding, Painting completed as of April 4, 2009	Zero
Zero	Replaced Hyatt and Guma Trankilidat main sign 18th of May	Inspected on the 2nd and the 18th of May	Zero
Zero	Replaced 2 shoreline signs along Tumon bay MPA as of the 2nd and the 16th of June	Inspected all shoreline signs anchors, bolts and text as of the 2nd and the 16th of June	Zero
Zero	Replaced bolts and nuts due to fasteners corroding	On the 5th and the 18th of July, conducted scheduled	Zero

	on the 2nd and the 18th of July	maintenance for shoreline signs found all status quo.	
Zero	Washed and wiped the MPA signs for clear visibility and removed the salt spray on the 2nd and the 16th of August	Washed and wiped the MPA signs for clear visibility and removed the salt spray and vehicle exhaust carbon on the 2nd and the 16th August	Zero
Zero	Inspected all of shoreline signs in Tumon area on the 2nd and 25th of September, all good except for shoreline sign behind sails needed to be sanded, welded, repainted to include reinstalled due to footing exposed. Replaced upper portion of signs due to scratches found. Completed on October 7, 2009.	Inspected all shoreline signs footings, bolts and nuts. All in good condition for September 2nd and 25th 2009 maintenance all okay to footing, nuts, bolts and signs	Zero

Table 3 lists the dates of scheduled work days per months with specifics as to the repairs and activities completed per month for the ***boat ramp*** signs maintenance and repairs.

Agat Marina	Hagatna Boat Basin
Grinding, painting complete as of April 4, 2009	Grinding, Painting completed as of April 4, 2009
Inspected on the 2nd and 18th of May condition good	`Inspected on the 2nd and the 18th of May condition good
Inspected anchors, bolts and informational text as of the 2nd and the 16th of June.	Inspected anchors, bolts and informational text as of the 2nd and the 16th of June.
Site visit for maintenance on the 5th and the 18th of July found all status quo no maintenance needed.	Site visit for maintenance on the 5th and the 18th of July found all status quo no maintenance needed.
Site visit for maintenance on the 2nd and 16th of August touched up scratches on the frame with marine grade yellow paint.	Site visit for maintenance on the 2nd and the 16th of August conducted vegetation trimming to footing areas.
Inspected ramp signs by boat launch area bolts, nuts, and paint are still okay minor bush cutting to footing area on Sept. 2nd and the 25th , 2009.	Inspected ramp signs by boat launch area bolts, nuts, and paint are still okay minor bush cutting to footing area on Sept. 2nd and the 25th ,2009.

Table 4. A list of the dates of scheduled workdays per months with specifics as to the vegetation removal and inspection activities completed per months for the roadside and shoreline signs.

Road sign Vegetation removal / inspection

April	3rd vegetation removal	16th vegetation removal
May	2nd vegetation removal	18th vegetation removal
June	2nd vegetation removal	16th vegetation removal
July	5th vegetation removal	18th vegetation removal
August	4th/5th vegetation removal	18th / 19th vegetation removal
Sept	2nd vegetation removal	25th vegetation removal

Shoreline Vegetation removal / inspection

April	3rd vegetation removal	16th vegetation removal
May	2nd vegetation removal	18th vegetation removal
June	2nd vegetation removal	16th vegetation removal
July	5th vegetation removal	18th vegetation removal
August	4th/5th vegetation removal	18th / 19th vegetation removal
Sept	2nd vegetation removal	25th vegetation removal

Photograph 1a is the condition of one of the Tumon ***roadside*** signs prior to contract being awarded. Photo 1b is the current condition of one of the roadside signs found in the Tumon location after being awarded.

Photo 1a.

Photo 1b.

Photo 1c is the condition of the ***shoreline*** sign in the Tumon location prior to being awarded and photo 1d is the current condition afterwards.

Photo 1c.

Photo 1d.

Photo 1e is the condition of the ***ramp signs*** in the Hagatna location prior to being awarded and photo 1f is the current condition afterwards.

1e.

1f.

In addition, purchase orders were secured on January 9, 2009 to purchase a chainsaw in the sum of $479.95 and a bush cutter in the sum of $699.00. A separate purchase order was created for materials and safety supplies at two hardware stores for the sum of $100.00 each in order to continue the maintenance and repairs to the signs as the vendors purchase order expires on September 30, 2009. Purchased at the hardware stores were bush cutter face shield and visor, safety glasses, safety gloves, bar and chain oils, gas container, bush cutter strings and two cycle oils.

8. Discuss differences between work anticipated in grant proposal and grant agreement and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

Funds are currently being paid from a local funds because the signs involve rules and regulations, which are not eligible under Sport Fish Restoration Program. Per discussions with the U.S. Fish and Wildlife Service, the Department of Agriculture submitted an amendment to revise the grant narrative to reflect Sport Fish eligibility.

9. List any publications or in-house reports resulting from this work.
N/A

Name, title, phone number, and e-mail address of person compiling this report
Jay Gutierrez, Acting Assistant Chief, (671) 735-3980, jaytgutierrez@yahoo.com
Shawn Wusstig, Fisheries Technician II (671)735-4037, shawnwusstig@yahoo.com

SPORT FISH RESTORATION
FY 2009
F-16-D-1

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Territory of Guam

Grant number: F-16-D-1

Grant name: Guam Sport Fish Investigations

Project number and name: Guam Fisheries Development Boathouse Repairs and Improvements

Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Guam:

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual X or Estimated**
Federal : Sport Fish Restoration	$30,000.00	$3599.53
State	-0-	
Other:	-0-	
Total Federal	$30,000.00	$3599.53
Total match	-0-	
Total project:	$30,000.00	$3599.53

5. Objectives:

a. To repair or replace severely eroded Department of Agriculture Division of Aquatics and Wildlife Resources boathouse sliding doors and its beams to ensure proper security of valuable equipment and inventory (i.e. important and confidential documents, two boats with trailers, three outboard motors, FADs and SWMs with ropes and hardware, and miscellaneous boating and survey equipment) and the safety of personnel.

b. Purchase and install a climate control or air conditioning unit to properly preserve important fisheries development and investigation archival documents.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project. N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

(5a) GDAWR encountered some difficulty identifying possible vendors interested in providing quotations to perform the duties outlined in this scope of work. The slow response to repeated inquiries for quotations to vendors and an oversight with misplaced documents in addition to staff on medical leave has made this objective incomplete for this reporting period. A request has been made to extend this grant as to secure the safety of GDAWR staff and visitors that frequent the facility and secure valuable equipment.

(5b) A vendor was identified and awarded the contract to install air conditioning units to climate control GDAWR storage facility. Valuable archival documents can now be properly stored in the Fisheries Warehouse.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs. N/A

9. List any publications or in-house reports resulting from this work. N/A

Name, title, phone number, and e-mail address of person(s) compiling this report:

Jamie Bass, Fisheries Technician II, (671) 735-3958, jddsbass@hotmail.com

WILDLIFE RESTORATION
W-1-R-17
FY2009

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: W-1-R-17

Grant name: Guam Wildlife Restoration Program

Project number and name: Subproject A. Management of Guam's populations of Birds and Mammals. Study No. W-1 Game and Non-game Birds. Job 1. Survey and Inventory of Resident and Migrant Birds of Guam and Rota.

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated".

Source	Budgeted	Actual _X_or Estimated__
Federal:	$102,450.00	$ 23,159.74
State		
Other:_____		
_____		
_____		
Total Federal	$102,450.00	$ 23,159.74
Total match		
Total project:	$102,450.00	$ 23,159.74

5. Objectives: (list project objectives from grant proposal or grant agreement)

a. To determine population trends, distribution and breeding status of the Mariana crows by conducting monthly searches for birds in northern Guam and semi-annual surveys on Rota.

b. To determine population trends, distribution and breeding status of the Mariana gray swiftlet by conducting quarterly cave counts of birds entering and exiting Mahlac cave and monthly searches for new caves throughout Guam.

c. To determine population trends of other game (black francolin) and non-game birds

(yellow bittern, blue breasted quail, Micronesian starling, Eurasian tree sparrow, white tern, brown noddy, and migrant species) by conducting annual roadside surveys throughout the island.

d. To determine population trends and distribution of Guam rails on the island of Rota in areas where they occur by conducting playback surveys along transects and roadways.

e. Conduct surveys for rails on Cocos Island and other areas where rails are released.

f. Determine habitat use of migrant bird species.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Objective a. During the breeding season, crow searches were conducted in Andersen Air Force Base property. As a direct result of this intensive monitoring, DAWR discovered two male birds in fiscal year 2009. There were no observations for nesting or other signs of crows in the wild.

Table 1:

	Areas							
Months	MSA	Tarague	Pati	NWF	Golf course	NCTMS	GNWR	Comments
October	-	-	-	-	-	-	-	
November	2	-	-	-	-	-	-	2 males
December	2	-	-	-	-	-	-	2 males
January	2	-	-	-	-	-	-	2 males
February	-	-	-	2	-	-	-	2 males
March	2	-	-	-	-	-	-	2 males
April	-	-	-	-	-	-	-	

* 2 males identified are Amariyu and Kahit
** No nests found

Figure 1: 2009 Mariana Crow Territory in AAFB. Kahit/Amariyu pair observed in MSA and NWF area.

Objective b. Three counts took place this fiscal year at Mahlac cave: February, 982 birds; March, 1211 birds; May, 1193 birds.

Objective c. The annual Spring Bird Count occurred in May 2009. Twenty-three routes, excluding Naval Magazine and NCTMS, were surveyed throughout the island covering 222 stations.

Eurasian tree sparrow (n=1201) was the most abundant bird species, followed by the Black francolin (n=1084). A total of 150 Micronesian starlings were observed during the annual Spring Bird Count (94-AAFB, 10-Mt. Santa Rosa, 46-Cocos Island Resort). The Philippine turtle-dove (n=425) occurred in all 23 survey routes.

		Species													
Area	sta.	BBQU	BLDR	BLFR	BLNO	BRNO	CAEG	COMO	ETSP	ISSW	MACR	MIST	PTDO	WHTE	YEBI
Tarague	10	0	3	57	0	0	0	0	13	0	0	0	29	0	7
MSA	10	0	6	190	0	0	0	0	12	0	0	0	48	0	9
NWF	10	0	16	89	0	0	0	0	17	0	0	0	32	0	12
Andersen Hse	10	0	40	3	0	0	0	0	218	0	0	94	36	35	11
Andy south	10	0	0	22	0	0	0	0	31	0	0	0	9	0	7
NCTMS	0														
Mt. Santa Rosa	10	0	12	29	0	0	0	0	125	0	0	10	26	10	5
Capitol improvement road	10	0	10	7	0	0	0	0	12	0	0	0	11	0	3
Y Sensong road	10	0	8	11	0	0	0	0	27	0	0	0	16	0	8
Two Lover's Point	10	0	3	109	0	0	0	0	109	0	0	0	10	0	13
Barrigada Hill	10	0	0	65	0	0	0	0	107	0	0	0	18	0	11
Navy Golf Course	10	0	0	97	0	0	20	0	65	0	0	0	10	2	19
Tiyan	10	0	0	24	0	0	0	0	38	0	0	0	9	0	9
Toto Pipeline	10	0	0	9	0	0	0	0	69	0	0	0	20	0	8
Cross Island Road	10	0	2	33	0	0	0	0	69	9	0	0	16	0	3
Pulantat(Leo Palace rd)	10	0	3	71	0	0	0	2	101	0	0	0	10	0	10
Nimitz Hill(Channel 10)	10	0	0	60	0	0	0	0	52	0	0	0	5	0	2
Res. Craft Beach Road	4	0	6	0	0	0	0	0	30	0	0	0	7	0	3
Orote	6	0	20	29	0	0	0	0	26	0	0	0	10	4	6
**NavMag	0														
Dandan	8	12	14	61	0	0	0	0	24	0	0	0	18	0	7
Ija	8	8	3	29	0	0	0	0	8	0	0	0	14	0	2
Umatac	10	0	5	43	0	0	0	0	8	0	0	0	13	0	2
Merizo	6	0	2	46	0	0	0	0	26	0	0	0	15	0	5
Cocos Island	10	0	0	0	62	22	0	0	14	0	0	46	43	38	3
total	212	20	153	1084	62	22	20	2	1201	9	0	150	425	89	165

Objective d. During June and July, playbacks of rail vocalizations were broadcast at 298 points in areas of possible rail occurrences. Points were spaced at 100m intervals along roads and trails where rails were likely to occur. Four different playback sequences lasting one minute each were broadcast during 15 minutes at each point. These areas were selected because releases occurred there between August 2000 and January 2009. We detected six individuals at seven points.

Objective f. Migratory birds observed during the fiscal year throughout the island of Guam and Cocos Island includes: whiskered tern, pacific barn swallow, whimbrel, ruddy turnstone, black-necked stilt, lesser golden plover, pacific reef heron, brown booby, wedged-tail shearwater, northern shoveler, northern pintail and green winged teal. The ruddy turnstone and black-necked stilt was observed at the Inarajan aquaculture farm. The pintail, shoveler and teal were observed in man-made ponds at Starts Golf Course, Dededo, and Leo Palace Golf Course, Yona.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

Objective b. The swiftlet counts did not take place on a quarterly basis due to processing badges and scheduling issues with the Navy. Three counts scheduled for January, April, and September were postponed.

Objective e. Rails were not located on Cocos or any location other than Rota this fiscal year.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
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Suzanne Medina, Wildlife Biologist, 671-735-3985, medinas@guam.net

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: W-1-R-17

Grant name: Guam Wildlife Restoration Program

Project number and name: Subproject A. Study No. W-2. Native Mammals. Job 1. Population biology of Marianas fruit bats in the Mariana Islands.

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [Extended to March 31, 2010]

3. Location of work: Andersen Air Force Base, Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X_ or Estimated__**
Federal :	$4,860.00	$5566.61
State		
Other:_____		
_____		
_____		
Total Federal	$4,860.00	$5566.61
Total match		
Total project:	$4,860.00	$5566.61

5. Objectives: (list project objectives from grant proposal or grant agreement)

Determine population trends and age-structure of fruit bats on Guam by conducting monthly counts of known roost sites including the Andersen Air Force Base roost.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

The objective was met with monthly bat population surveys at the Pati Point colony and known roost sites at Andersen Air Force Base. An average 4.50 man-hours were spent per count to determine population size, age structure, and sex ratio. An average six man-hours were spent per solitary bat search to determine, population size, age structure, sex ratio, roost area, and tree species.

During the reporting period, the highest count at the Pati Point colony was on March 2009 with 30 adults and 0 pups. The lowest count occurred on September 2009 with six adults. One pup was observed in November 2008. No other pup was observed. The average sex ratio per count at the Pati Point colony is three females to every one male.

Bat searches at former known roosting sites (Figure 1) at East Pati Point, Golf Course area, Tarague Basin, Munition Storage Area, Northwest Field, and Guam National Wildlife Refuge area were conducted to determine if there was evidence of bat movement within Andersen.

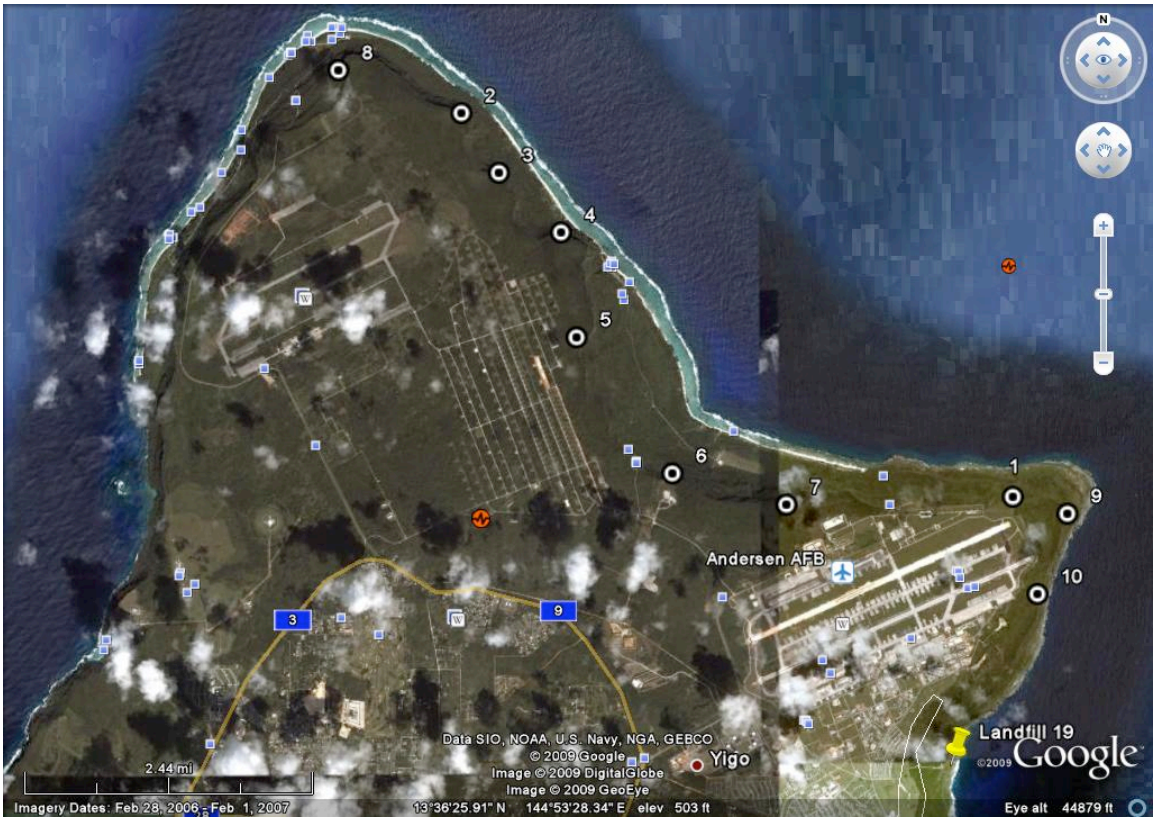

Figure 1: Known roost sites for Mariana fruit bat in AAFB.

Bats were observed in four out of the 10 historical roosting locations. Four bats were observed in Site 9; two bats were observed in site 10, and three were observed at site 6, one bat was observed in site 8.

Incidental sightings of bats in AAFB occurred in MSA (1 bat), NWF hunting area A1 (three bats), one bat in upper Tarague road forest (proposed Aircraft Staging Area, ISR STRIKE). Bats were observed in Leyang, Barrigada with eight adults, one pup. One individual was observed East Pagat Point, Route 15 flying east to Anao Point. Two individuals were observed at Oka Point, Tamuning; six individuals were observed at Tanguissan Point, four bats were observed flying in the direction of Haputo Point, and three individuals were observed at Lonfit Valley, Leo Palace Road.

Table 1: Incidental sightings and reports for fruit bats.

Date	Area	# bats observed	Observation	Comment
Nov 16	Lonfit Valley	3	Report/incidental sighting	3 confirmed bats east of Lonfit valley. Leo Palace employee reported sighting; 0600.
Feb 9-19	Leyang, Barrigada	9	Report; monitored group during time remained in area.	8 adults + 1 pup in residential area. Resident reported sighting on Feb 9.
Feb 20	Upper Tarague road, AAFB	1	Incidental sighting	Bat observed at proposed Aircraft Staging Area, ISR STRIKE.
March 23	Haputo Point	4	Report	Bats seen on March 21, ~0600 flying from east.
April 16	NWF	3	Incidental sighting	Bat observe flying across Rte 3A, to area A1, NWF.
May 17	MSA	1	Incidental sighting	Individual flew to Ficus spp.
Jun 18	Oka Point	2	Report	2 flying ENE, direction to Tumon Bay at 1800.
July 13	Pagat Point	1	Incidental sighting	Bat observed flying east to Anao Point
Sept 7	Tanguissan point	6	Report	Hunter reported bats seen at Tanguissan Pt. on Sept. 6, 0600-0700.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

N/A

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
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Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: W-1-R-17

Grant name: Guam Wildlife Restoration Program

Project number and name: Subproject A. Management of Guam's populations of Birds and Mammals. Study No. W-3. Introduced mammal investigation. Job 1. Population biology of deer and feral Asiatic water buffalo.

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X_ or Estimated __**
Federal :	$16,830.00	$6459.47
State		
Other:_____		
_____		
_____		
Total Federal	$16,830.00	$6459.47
Total match		
Total project:	$16,830.00	$6459.47

5. Objectives:

a. Determine deer abundance by conducting monthly spotlight counts in northern Guam on Andersen Air Force Base (AAFB) at Pati Point, Munitions Storage Area and Northwest Field and other appropriate routes in southern Guam.

b. Document noteworthy sightings of deer throughout Guam.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Objective a.. Deer population surveys were conducted in Andersen Air Force Base (AAFB) property in fiscal year 2009. Pati Point, Northwest Field (NWF) and Munitions Storage Area (MSA) are survey routes used to determine deer population in northern Guam. Each route is a hunting area in AAFB. MSA and part of Pati Point area is restricted to bow hunting.

Method for deer surveys involves two staff members: a driver and an observer. The observer identifies deer along the 12.87 km (eight miles) survey route determining age class (fawn, yearling, doe or buck). For bucks, the number of tines is noted.

At Pati Point, deer numbers significantly increased this year from those of the previous year. The average number of deer seen per count increased from 2.3 deer/km in FY08 to 3.05 deer/km in FY09. The largest single nightly count at Pati Point increased from 103 deer in FY08 to 128 deer in FY09. In the past years, a revocable permit was issued to remove ungulates at the Pati Point area. The activity was discontinued at Pati Point on October 2008 due to the low number of bats observed at the colonial roost site.

Table 1: Compostion of deer seen during spotlight counts on Pati Point, FY09.

Class	Oct	Nov	Dec	Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sep	Total	Mean	SD
Unkn Buck	0	0	6	0	0	6	5	6	8	10	8	6	55	4.6	3.6
Spike	1	2	0	5	6	8	12	9	5	8	13	3	72	6.0	4.2
2 pt	2	3	2	5	2	10	8	6	7	9	11	4	69	5.8	3.3
3pt	1	1	0	2	4	7	5	5	8	11	9	1	54	4.5	3.6
4pt	0	0	0	1	1	3	2	1	3	2	3	0	16	1.3	1.2
Doe	12	13	8	10	21	35	30	23	31	29	26	20	258	21.5	9.1
Yearling	6	9	3	13	10	12	8	11	15	9	11	10	117	9.8	3.2
Fawn	7	6	5	10	9	11	15	13	10	6	14	7	113	9.4	3.3
Unkn Deer	14	16	9	50	26	25	28	26	27	18	33	21	293	24.4	10.5
Total Deer	43	50	33	96	79	117	113	100	114	102	128	72	1047	87.3	31.6
Miles Trav	8	8	8	8	8	8	8	8	8	8	8	8	8	8.0	0.0
Deer / MI	0.3	0.3	0.3	0.5	0.3	0.2	0.2	0.3	0.2	0.2	0.3	0.3	130.9	0.29	
	0.086														
Deer / KM	1.8	2.0	1.1	6.3	3.3	3.1	3.5	3.3	3.4	2.3	4.1	2.6	8.0	3.05	1.32

At Northwest Field (NWF) deer numbers significantly increased this year from those of the previous year. The average number of deer seen per count increased from 2.3 deer/km in FY08 to 3.05 deer/km in FY09. The largest single nightly count at NWF increased from 103 deer in FY08 to 128 deer in FY09. NWF is a hunting area open to the public.

Table 2: Composition of deer seen during spotlight counts on Northwest Field, FY09.

Class	Oct	Nov	Dec	Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sep	Total	Mean	SD
Unkn Buck	3	0	1	5	0	4	3	0	6	4	3	5	34	2.8	2.1
Spike	6	7	2	5	1	3	5	6	2	3	5	4	49	4.1	1.9
2 pt	2	5	1	3	1	5	4	4	1	6	2	3	37	3.1	1.7
3pt	0	1	0	0	0	0	2	4	1	0	1	0	9	0.8	1.2
4pt	0	0	1	1	0	0	1	2	0	0	1	0	6	0.5	0.7
Doe	8	11	7	13	4	14	12	15	6	11	13	16	130	10.8	3.8
Yearling	5	3	4	7	3	6	7	10	5	8	6	9	73	6.1	2.2
Fawn	7	2	15	9	2	5	4	9	8	4	5	8	78	6.5	3.7
Unkn Deer	18	16	6	23	40	21	19	14	19	23	20	21	240	20.0	7.8
Total Deer	49	45	37	66	51	58	57	64	48	59	56	66	656	54.7	8.9
Miles Trav	8	8	8	8	8	8	8	8	8	8	8	8	8	8.0	0.0
Deer / MI	0.4	0.4	0.2	0.3	0.8	0.4	0.3	0.2	0.4	0.4	0.4	0.3	2.5	0.37	0.0
Deer / KM	2.3	2.0	0.8	2.9	5.0	2.6	2.4	1.8	2.4	2.9	2.5	2.6	38.4	2.5	0.98

At Munition Storage Area (MSA) deer numbers significantly increased this year from those of the previous year. The average number of deer seen per count decreased from 10.8 deer/km in FY08 to 3.0 deer/km in FY09. The largest single nightly count at MSA decreased from 129 deer in FY08 to 101 deer in FY09. In the past years, a revocable permit was issued to remove ungulates at the MSA. The activity was discontinued at MSA on October 2008 due to the low number of crows observed in the area. MSA is open for hunting for DoD personnel assigned to MSA.

Table 3: Composition of deer seen during spotlight counts on MSA, FY09.

Class	Oct	Nov	Dec	Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sep	Total	Mean	SD
Unkn Buck	8	4	7	9	0	7	6	8	4	6	7	6	72	6.0	2.4
Spike	2	1	4	7	3	3	0	5	7	8	5	6	51	4.3	2.5
2 pt	2	4	5	5	0	7	0	3	2	1	4	3	36	3.0	2.1
3pt	1	1	4	3	0	5	2	7	4	6	5	5	43	3.6	2.2
4pt	0	2	1	4	5	1	0	2	3	1	3	2	24	2.0	1.5
Doe	14	11	16	19	24	37	34	15	18	14	19	24	245	20.4	8.1
Yearling	10	4	7	15	1	11	20	17	19	15	21	12	152	12.7	6.4
Fawn	6	5	3	9	12	8	11	8	4	7	6	10	89	7.4	2.8
Unkn Deer	11	5	9	17	19	22	24	14	18	23	19	24	205	17.1	6.2
Total Deer	54	37	56	88	64	101	97	79	79	81	89	92	917	76.4	19.6
Miles Trav	8	8	8	8	8	8	8	8	8	8	8	8	8	8.0	0.0
Deer / MI	0.2	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3	114.6	0.22	0.048
Deer / KM	1.4	0.6	1.1	2.1	2.4	2.8	3.0	1.8	2.3	2.9	2.4	3.0	8.0	2.13	0.773

Objective b. Noteworthy sightings of deer were recorded for fiscal year 2009 throughout Guam while conducting other field activities such as crow search, site inspections, and bat surveys. A total of 63 deer, 41 wild pigs and 15 carabao were observed during the fiscal year.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

N/A

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
Jeffrey S. Quitugua, Wildlife Biologist, 671-735-3956/96, jeff_quitugua73@yahoo.com

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: W-1-R-17

Grant name: Guam Wildlife Restoration Program

Project number and name: Subproject A. Management of Guam's populations of Birds and Mammals Study No. W-4. Monitoring Harvest of Game Mammals and Birds. Job 1. Harvest of Deer, Feral Pigs, Feral Carabao and Black Francolin**.**

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [Extended to March 31, 2009]

3. Location of work: Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X_ or Estimated__**
Federal:	$3,465.00	$9,600.56
State		
Other:_____		
_____		
_____		
Total Federal	$3,465.00	$9,600.56
Total match		
Total project:	$3,465.00	$9,600.56

5. Objectives: (list project objectives from grant proposal or grant agreement)

a. Determine the hunter harvest of deer, feral pigs and black francolin by analyzing mandatory hunter questionnaires and hunter logs from Andersen Air Force Base.

b. Tabulate depredation permit take of deer, feral pigs, feral carabao and black francolin based on monthly Depredation Reports, which are required of all permitees for the duration of their permit.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Objective a. A total of 632 hunting licenses and 897 deer tags were sold in FY09. Under Guam Hunting Regulations, there is a no tag requirement and bag limit for feral pigs. Data taken from hunting questionnaires and hunting logs from Andersen's hunting program indicates 186 deer, 97 pigs and zero black francolin harvested for FY 2009. Black francolin hunt is not allowed in Andersen AFB.

Objective b. Depredation permits are issued for property damage caused by ungulates. A total of 43 depredation permit applications were issued in FY09. A total of 348 feral pigs and192 deer were tallied during FY09. There was no harvesting of carabao or black francolin under the depredation permit reported.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

N/A

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
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Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: W-1-R-17

Grant name: Guam Wildlife Restoration

Project number and name: Subproject B: Natural History and Ecology of Guam's Vertebrates, Study No. W-2: Threatened and Endangered Species, Job 1: Natural History of Endangered Birds.

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated".

Source	Budgeted	Actual __or Estimated__
Federal :	$147,692.00	$49,409.93
State		
Other:_____		
_____		
_____		
Total Federal	$147,692.00	$49,409.93
Total match		
Total project:	$147,692.00	$49,409.93

5. Objectives: (list project objectives from grant proposal or grant agreement)

a. To determine nesting success, home range, habitat requirements and activity patterns of Mariana crows in northern Guam in the Andersen air force Base Area, and on Rota.

b. To determine the nesting success and activity patterns of the Guam (Mariana gray) swiftlet at the Mahlac, Fachi, and Maemong caves.

c. To determine estimated number of pairs, clutches and size, nesting success and activity patterns of Guam rails in Area 50 and on Rota.

6. If the work in this grant was part of a larger undertaking with other components and

funding, present a brief overview of the larger activity and the role of this project.

N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Objective a. During FY09, no successful crow nesting occurred. As result to crow searches this fiscal year, two male crows were found and monitored in the Munitions Storage Area.

Objective b. Three swiftlet counts took place at Mahlac cave in FY09. In February, 44 birds were observed nesting. In March, 56 birds were on nests with five eggs and eleven chicks observed. In May, 74 adults were on nests and five chicks were seen.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

Objective a. No crow work on Rota was conducted during the fiscal year due to permitting issues.

Objective c. Due to the sudden departure of the project biologist for the Rota release program, time was not spent on Rota with the released and resident rails and, therefore, no breeding rails were detected.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
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Suzanne Medina, Wildlife Biologist, 671-735-3985, medinas@guam.net

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: W-1-R-17

Grant name: Guam Wildlife Restoration Program

Project number and name: Technical Assistance to Activities Affecting Guam's Wildlife Resources. Study No. W-1 Technical Assistance.

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X_ or Estimated__**
Federal :	$22,400.00	$35,990.02
State		
Other:_____		
_____		
_____		
Total Federal	$22,400.00	$35,990.02
Total match		
Total project:	$22,400.00	$35,990.02

5. Objectives: (list project objectives from grant proposal or grant agreement)

a. To minimize the adverse impacts resulting from the construction of recreational, commercial, military and public facilities by attending, reviewing, making recommendations, etc. Report on the number of projects reviewed and provide information on the amount of habitat preserved, mitigations implemented, etc.

b. Participate in emergency exercises to salvage wildlife and/or minimize impacts of accidental oil and toxic substance spills on wildlife.

c. To pursue the possibility of establishing safe-harbor, habitat conservation plan agreements with private landowners and non-federal land to encourage the protection and enhancement of lands conducive to native wildlife.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

GDAWR reviewed and provided technical assistance for projects impacting wildlife on Guam in FY2009. GDAWR has worked closely with Andersen Environmental, US Fish and Wildlife Service, and Guam National Wildlife Refuge through informal and formal meetings to mitigate some of the impacts to natural resources.

In addition, GDAWR has reviewed proposed projects by Government of Guam agencies (Department of Public Works- Highway Division, Bureau of Statistics and Plans, Guam Environmental Protection Agency, Department of Land Management, and Guam Waterworks Authority) and several private consultant entities.

Major projects proposed during this reporting period includes Andersen's INRMP, NWF cargo drop, MIRC DEIS/OEIS, early review for the DEIS/OEIS for the marine relocation, EA for AT/FP perimeter fence and road construction, MSA igloo phase II. DAWR reviewed and provided comments on the GNWR's draft Comprehensive Conservation Plan and Environmental Assessment.

With the anticipation of the Layon Landfill in Malojloj, Ylig Bridge reconstruction was proposed. As a result, a colony of Guam tree snail, *Partula radiolata*, was found at the proposed site. Consultation between GDAWR and Duenas, Camacho Associates occurred to mitigate for the tree snails. In addition, Highway Division, Department of Public Works had proposed numerous road reconstruction and widening projects in anticipation of the military build-up.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.
N/A

9. List any publications or in-house reports resulting from this work.
N/A
Name, title, phone number, and e-mail address of person compiling this report:
Jeffrey S. Quitugua. Biologist, (671) 735-3996, jeff_quitugua73@yahoo.com

Annual Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: W-1R-17

Grant name: Guam Wildlife Restoration

Project number and name: Project: Coordination of Guam's Wildlife Programs, Study No. W-1: Coordination, Job 1: Wildlife Coordination

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated".

Source	**Budgeted**	**Actual X or Estimated _**
Federal :	$81,980.00	$59,936.48
State		
Other:_____		
_____		
Total Federal	$81,980.00	$59,936.48
Total match		
Total project:	$81,980.00	$59,936.48

5. Objectives: (list project objectives from grant proposal or grant agreement)

To plan, coordinate, supervise, and administer all wildlife restoration programs including programs for endangered species recovery, wildlife population monitoring, implementing of management plans, conduction technical assistance and review of projects affecting Guam's wildlife, and ensuring legislation that affect Guam's wildlife are in alignment with other regulations.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Throughout FY 2009 there were two wildlife biologists that rotated through the position in an acting capacity to ensure the smooth operation of wildlife restoration programs.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

N/A

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
Suzanne Medina, Wildlife Biologist III, 671-735-3985, medinas@guam.net

STATE WILDLIFE GRANT
T-3-R

Interim Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: T-3-R-1

Grant name: State Wildlife Grant

Project number and name: W-1: Reestablishing Island Swiftlets to Former Swiftlet Caves

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs:

Source	Budgeted	FY08 Actual Expenditures	FY09 Actual or Estimated Expenditures
Federal:	$63,000	$12,738.00	$2,919.62
State:			
Other:			
Total Federal:	$63,000	$12,738.00	$2,919.62
Total match:			
Total project:	$63,000	$12,738.00	$2,919.62

5. Objectives (list project objectives from grant proposal or grant agreement)

During FY08 the Objectives were modified to include the following:

a. In FY09, complete the required Environmental Assessment documents and MOU's for translocation of swiftlets from Naval Ordnance Annex to northern Guam.

b. Coordinate Amendment of Section 10(a)(1)(A) permit, TE-032209-8, to include swiftlet translocation.

c. Prepare Tarague Cave and other caves in northern Guam for swiftlet translocation by removing 200 brown treesnakes from the caves and surrounding areas. Continue to suppress snake densities after swiftlets have been established.

d. Capture 5% of the swiftlet population or no more than 25 birds from Mahlac Cave and release in northern Guam near historic swiftlet caves. Swiftlets are documented as reproducing year-round, however translocation will take place during off-peak breeding season.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

Currently the Guam swiftlet population, located within the Naval Ordnance, is being protected from brown treesnake predation under a Naval contract with US Department of Agriculture, Wildlife Services. The Guam Division of Aquatic and Wildlife Resources monitors the swiftlet population, in cooperation with Navy biologists. Monitoring provides necessary information on the status of the source population for translocation.

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Under Objective a, initial discussions with Navy personnel indicated that an environmental assessment (EA) would be necessary to begin the project. A modification and extension was completed to include the writing of an EA for the project. Under Objective c, 146 brown treesnakes were removed from the Tarague Cave area during FY08.

In FY09 discussions were initiated to contract USDA Wildlife Services to complete the EA for the swiftlet translocation. Difficulties with formatting a Memorandum of Understanding (MOU) between Government of Guam and USDA resulted in no forward progress on the project.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

The project was put on hold due to the need for an EA, as well as the lack of staff to produce the EA after the modification was accepted. The need for a new format for the MOU between the Government of Guam and USDA has further delayed the project. Documents to amend the cost of the project were submitted in August 2009. The project budget was reduced by $25,000 and added to W-4: Reproductive Behavior and Parental Care by Captive Guam Micronesian Kingfishers.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
Diane Vice, Wildlife Biologist III, 671-735-3990, dianevice@gmail.com

Interim Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: T-3-R1

Grant name: State Wildlife Grant

Project number and name: W-2: Survey of the Terrestrial Gastropods of the Northern Limestone Plateau in Guam

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [March 31, 2010]

3. Location of work: Guam

4. Costs:

Source	Budgeted	FY08 Actual Expenditures	FY09 Actual Expenditures
Federal:	$30,003	$18,138.31	$11,864.69
State:			
Other:			
Total Federal:	$30,003	$18,138.31	$11,864.69
Total match:			
Total project:	$30,003	$18,138.31	$11,864.69

5. Objectives (list project objectives from grant proposal or grant agreement)

a. Establish an MOU between DAWR and the University of Guam.

b. Establish 48 sampling stations on the northern limestone plateau of Guam.

c. Assess the distribution and status of snail populations on the northern limestone plateau of Guam.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

The MOU was completed with the University of Guam. Two-thirds of the survey is complete and completion is expected in FY09.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
Diane Vice, Wildlife Biologist III, 671-735-3990, dianevice@gmail.com

Interim Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: T-3-R

Grant name: Guam State Wildlife Grant Program

Project number and name: W-3: Implementation of Comprehensive Wildlife Conservation Strategy.

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs:

Source	Budgeted	FY08 Estimated Expenditures	FY09 Actual __ or Estimated Expenditures
Federal:	$44,997	$6,000	$11,645.68
State			
Other:			
Total Federal	$44,997	$6,000	$11,645.68
Total match			
Total project:	$44,997	$6,000	$11,645.68

5. Objectives: (list project objectives from grant proposal or grant agreement)

a. Coordinate with research groups and other cooperators to develop projects for obtaining baseline information on biology, distribution, and abundance of species of special concern, including their habitat.

b. Develop Third Party Agreements with cooperators and assist in developing grant and/or project proposals for implementation with State Wildlife Grant funds.

c. Create a Guam Comprehensive Wildlife Conservation Strategy Committee and convene regularly scheduled meetings.

d. Administer Guam's State Wildlife Grant Program.

6. If the work in this grant was part of a larger undertaking with other components and

funding, present brief overview of the larger activity and the role of this project.

N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Discussions via phone, email and meetings were conducted with the University of Guam and USDA Wildlife Services regarding current and future State Wildlife Grant projects. Agreements were developed and tracked between Government of Guam and cooperators to implement projects in support of species of special concern. FY2008 Annual Performance reports for State Wildlife Grants were written and revised. Quarterly meetings with USFWS grant coordinators were attended (on Guam) and status updates were provided to coordinator.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

N/A

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
Diane Vice, Wildlife Biologist III, 671-735-3990, dianevice@gmail.com

Interim Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: T-3-R

Grant name: Guam State Wildlife Grant Program

Project number and name: W-4: Reproductive Behavior and Parental Care by Captive Guam Micronesian Kingfishers

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs:

Source	Budgeted	FY08 Expenditures	FY09 Actual X or Estimated
Federal:	$15,004	$0	$15,336.28
State			
Other:			
Total Federal:	$15.004	$0	$15,336.28
Total match			
Total project:	$15,004	$0	$15,336.28

5. Objectives (list project objectives from grant proposal or grant agreement)

For FY09 the objectives were amended to read as follows:

a. To increase parent-reared chick survivorship by supplemental feeding at the nest during FY09 and FY10.

b. Purchase local-caught geckos to Micronesian kingfishers and their young in FY10.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

The larger activity is to captive breed Guam Micronesian kingfishers in captivity to prevent the extinction of the species and to eventually reintroduce them back to Guam. Endangered Species

Section 6 fund the majority of the species recovery in captivity on Guam. Also, there are 11 zoological facilities participating in the Micronesian Kingfisher Species Survival Plan. Each institution funds the husbandry efforts of maintaining and reproducing kingfishers at their respective facilities.

The Guam Micronesian kingfishers have extremely low reproductive success and a majority of chicks raised are hand-reared. This project will allow GDAWR staff to study the birds in a more natural environment on Guam, as opposed to an artificial zoo setting, to better understand why 66% of chicks disappear from the nest and how to prevent this from happening on both Guam and the US mainland.

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

No objectives were met during FY08 due to lack of breeding females available on Guam.

Three females arrived on island at the start of this fiscal year which increased the number of females on Guam to four. These four females were paired with males and two of the pairs produced 10 fertile eggs in which nine hatched. Of those nine hatchlings, six were fed at the nest by DAWR staff. Unfortunately, only one chick fledged as two chicks were consumed by snakes, one fell out of the nest, and two disappeared.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

This project was not worked on in FY08 because of lack of breeding females on Guam. DAWR's one female was paired with two males, the first pairing resulted in infertile eggs, the second pairing resulted in excavating a cavity however no eggs were laid. In September 08, two females arrived from the mainland.

In August 2009 documents were submitted to increase the project costs by $25,000 to allow the project to continue for the FY10 breeding season. An objective was added to allow for the purchase of locally caught geckos to feed the Micronesian kingfishers.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
Suzanne Medina, Wildlife Biologist III, 671-735-3985, medinas@guam.net
Diane Vice, Wildlife Biologist III, 671-735-3990, dianevice@gmail.com

STATE WILDLIFE GRANT
T-4-M

Interim Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: T-4-M-4

Grant name: State Wildlife Grant

Project number and name: W-1: Mariana Fruit Bat Snake Control

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs:

Source	Budgeted	FY08 Actual Expenditures	FY09 Actual _X_ or Estimated_ Expenditures
Federal:	$110,000	$0	$0
State:			
Other:			
Total Federal:	$110,000	$0	$0
Total match:			
Total project:	$110,000	$0	$0

5. Objective (list project objectives from grant proposal or grant agreement)

To increase fruit bat pup survivorship within the Pati Point Mariana fruit bat colony by at least one pup during FY06 by contracting USDA Wildlife Services to remove 500 brown treesnakes from the area surrounding the Pati Point colony.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

No objectives were met during FY09. A Memorandum of Understanding (MOU) was completed between the Government of Guam and the USDA Wildlife Services in FY07, however the MOU

expired and USDA will no longer accept the format of the Government of Guam MOUs. Discussions on how to correct the MOU format to meet the needs of both parties are ongoing.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

The project was put on hold in FY07 due to the need for an Environmental Assessment (EA). Initially Wildlife Services was going to include the fruit bat colony protection project within their programmatic NEPA review, however due to the delays in that procedure, it was decided that the fruit bat colony protection EA would be done separately. Delays in the EA were attributed to the expiration of the MOU and problems with reformatting the MOU to meet USDA's needs. Current plans are to try and complete the service agreement through the use of a purchase order, although the status of the bat colony may jeopardize the future of the project.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
Diane Vice, Wildlife Biologist III, 671-735-3990, dianevice@gmail.com

Interim Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: T-4-M-4

Grant name: State Wildlife Grant

Project number and name: W-2: Implementation of Guam's Comprehensive Wildlife Conservation Strategy

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs:

Source	Budgeted	FY08 Actual Expenditures	FY09 Actual _X_ or Estimated_ Expenditures
Federal:	$44,997	$987	$868.24
State:			
Other:			
Total Federal:	$44,997	$987	$868.24
Total match:			
Total project:	$44,997	$987	$868.24

5. Objectives (list project objectives from grant proposal or grant agreement)

a. Coordinate with research groups and other cooperators to develop projects for obtaining baseline information on biology, distribution, and abundance of species of special concern, including their habitats.

b. Develop Third Party Agreements with cooperators and assist in developing grant and/or project proposals for implementation with State Wildlife Grant funds.

c. Continue to coordinate a Guam Comprehensive Wildlife Conservation Strategy Committee and convene regularly scheduled meetings.

d. Administer Guam's State Wildlife Grant Program.

6. If the work in this grant was part of a larger undertaking with other components and

funding, present a brief overview of the larger activity and the role of this project.

N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Discussions via phone and email were conducted regarding current and future State Wildlife Grant projects. Agreements were tracked between Government of Guam and cooperators to implement projects in support of species of special concern. Annual Performance reports for State Wildlife Grants were written.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

N/A

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
Diane Vice, Wildlife Biologist III, 671-735-3990, dianevice@gmail.com

Interim Project Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: T-4-M

Grant name: State Wildlife Grant

Project number and name: W-3: Renovation of DAWR Wildlife Lab

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs:

Source	Budgeted	FY08 Estimated Expenditures	FY09 Actual _X_ or Estimated Expenditures
Federal:	$25,000	$16,000	$7,086.70
State:			
Other:			
Total Federal:	$25,000	$16,000	$7,086.70
Total match:			
Total project:	$25,000	$16,000	$7,086.70

5. Objectives (list project objectives from grant proposal or grant agreement)

a. Increase the number of rooms within the Wildlife Lab from three to six by building walls that will divide the current space into specialized rooms designated for specific aviculture activities.

b. Replace current counter top and add at least 20 square feet of countertop space to increase the workspace for incubators, animal intensive care units, diet preparation, etc.

c. Increase food storage capacity by purchasing a walk-in cooler refrigerator and storage cabinets.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

In FY07, a new incubator room was completed with 24 ft^2 of countertop added. Also, a walk-in cooler was purchased, installed and is operational. The project was not worked on in FY08.

In FY09, counter space in the Wildlife Lab was refurbished to stainless steel, new cabinets were added, the existing sink and cabinets below were refurbished and the cabinets below the countertops were refurbished. A new paint of coat was added to the main room of the Wildlife Lab.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

The lab renovation project would have been completed within FY09. However, there was a break-in at the Lab and permission was granted to use remaining funds to repair the facility. Documents are currently being prepared to amend the grant to increase funding for more renovations. All should be completed within FY10.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
Suzanne Medina, Wildlife Biologist, 671-735-3985, medinas@guam.net

STATE WILDIFE GRANT
T-2-1-R

Interim Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: T-2-1R

Grant name: State Wildlife Grant

Project number and name: W-1: Recovery of the Guam Micronesian Kingfisher, Job 1: Captive Breeding of Guam Micronesian Kingfishers

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs:

Source	FY09 Budget	FY10 Budget	FY09 Actual X or Estimated Expenditures
Federal:	$60,000	$60,000	$0
State:			
Other:			
Total Federal:	$60,000	$60,000	$0
Total match:			
Total project:	$60,000	$60,000	$0

5. Objectives (list project objectives from grant proposal or grant agreement)

a. Captive breed sihek. Increase the amount of parent-reared sihek by supplemental feeding at the nest.

b. Feed sihek a diet consisting mainly of locally caught geckos, pinkies, crickets and mealworms.

c. Maintain the existing sihek breeding and holding facility. Increase the number of cages if needed.

d. Prepare sihek for release by maintaining facilities that mimic Guam's environment and have the opportunity to capture live prey.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

The larger activity is to captive breed Guam Micronesian kingfishers in captivity to prevent the extinction of the species and to eventually reintroduce them back to Guam. Endangered Species Section 6 fund the majority of the species recovery in captivity on Guam. Also, there are 11 zoological facilities participating in the Micronesian Kingfisher Species Survival Plan. Each institution funds the husbandry efforts of maintaining and reproducing kingfishers at their respective facilities.

The Guam Micronesian kingfishers have extremely low reproductive success and a majority of chicks raised are hand-reared. This project will allow GDAWR staff to study the birds in a more natural environment on Guam, as opposed to an artificial zoo setting, to better understand why 66% of chicks disappear from the nest and how to prevent this from happening on both Guam and the US mainland, and eventually recover the species.

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Objectives were not met; there was no activity within the grant during FY09.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

No money was spent.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
Diane Vice, Wildlife Biologist III, 671-735-3990, dianevice@gmail.com

Interim Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: T-2-1R

Grant name: State Wildlife Grant

Project number and name: W-1: Recovery of the Guam Micronesian Kingfisher, Job 2. Releasing Captive Bred Guam Micronesian Kingfishers on Guam and other Suitable Islands

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 29, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs:

Source	FY09 Budget	FY10 Budget	FY09 Actual Expenditures
Federal:	$9,000	$60,000	$0
State:	$0	$0	$0
Other:	$0	$0	$0
Total Federal:	$9,000	$60,000	$0
Total match:	$0	$0	$0
Total project:	$9,000	$60,000	$0

5. Objectives (list project objectives from grant proposal or grant agreement)

a. Determine potential release sites on Guam and other suitable islands in FY09.

b. Create a release protocol for releasing sihek on Guam and other suitable islands in FY10.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

The larger activity is to captive breed Guam Micronesian kingfishers in captivity to prevent the extinction of the species and to eventually reintroduce them back to Guam. Endangered Species Section 6 fund the majority of the species recovery in captivity on Guam. Also, there are 11 zoological facilities participating in the Micronesian Kingfisher Species Survival Plan. Each institution funds the husbandry efforts of maintaining and reproducing kingfishers at their respective facilities.

The Guam Micronesian kingfishers have extremely low reproductive success and a majority of chicks raised are hand-reared. This project will allow GDAWR staff to study the birds in a more natural environment on Guam, as opposed to an artificial zoo setting, to better understand why 66% of chicks disappear from the nest and how to prevent this from happening on both Guam and the US mainland, and eventually recover the species.

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Objectives were not met; there was no activity within the grant during FY09.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

No money was spent.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
Diane Vice, Wildlife Biologist III, 671-735-3990, dianevice@gmail.com

ENDANGERED SPECIES
E-2-11

Final Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: E-2-11

Grant name: Endangered Species Section 6

Project number and name: Segment 9 Guam Endangered Species Recovery

Subproject and job number and name: Subproject A: Avicultural Management for Rails, Kingfishers and Crows, Job 1: Captive Propagation of Guam Rails

2. Report Period: October 1, 2007 to March 31, 2009

Report due date: June 30, 2009

3. Location of work: Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X_ or Estimated ___**
Federal :_____	$168,000	$188,023.22
State		
Other:_____		
_____		
_____		
Total Federal	$168,000	$188,023.22
Total match		
Total project:	$168,000	$188,023.22

5. Objectives (list project objectives from grant proposal or grant agreement)

a. Increase the number of actively breeding pairs of Guam rails at the GDAWR facilities until a maximum of 22 pairs is reached.

b. Produced at least five Guam rails from each pair of rails annually. (Full production potential of GDAWR will be an average of 110 rails annually.)

c. Maintain a minimum of 40 individual Guam rails at mainland zoo facilities for captive

breeding.

d. Equalize founder representation and maintain the genetic diversity of the captive flock at 90% or higher.

e. Transfer three ko'ko' to mainland zoos, and 25 ko'ko' from zoos to the GDAWR facility every year to maintain genetic diversity within the captive population, as well as support the release program.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

This grant provided all funding for endangered Guam rail captive propagation on Guam. Other funding was provided by 17 US zoological facilities participating in the Guam Rail Species Survival Plan. Each institution funded the husbandry efforts of maintaining and reproducing rails at their respective facility.

The overall goal of this effort is to increase the captive Guam rail population to supply Guam rails for release into the wild. As the majority of the captive population is located on Guam (78%), our institution is able to reproduce over 95% of rails annually.

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Fifteen pairs produced eighty-four chicks that were banded and added to the captive flock in FY08 (average 5.6 chicks per pair). Four deaths occurred at the facility: one from old age related illness, one from mate trauma, one female died from an infection in her reproductive tract, and one cause of death unknown. Ninety-five rails were transported and hard released on Rota (49 in January, 31 in June, and 15 in August). Genetic diversity at the Guam facility remains below 90% and five rails were transferred from the mainland to Guam (two from San Antonio and one each from Milwaukee, Chicago, and Pittsburgh).

This project was extended for six months for the sole purpose to allow the Government of Guam to withdraw indirect costs. No funds from this grant were spent on operational costs nor salaries during this extension.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

DAWR did not reach the goal of 22 pairs as pairing was difficult. Genetic diversity below the desired goal of 90% is due to behavior difficulties within genetically compatible pairs. Rails from Guam were not sent to the mainland as Guam Rail Species Survival Plan Coordinator did not deem this necessary this fiscal year.

This project exceeded the budget award by $20,023.21. These funds were spent on staff salary.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
Suzanne Medina, Wildlife Biologist III, 671-735-3985, medinas@guam.net

Final Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: E-2-11

Grant name: Endangered Species Section 6

Project number and name: Segment 9 Guam Endangered Species Recovery

Subproject and job number and name: Subproject A: Avicultural Management for Rails, Kingfishers and Crows, Job 2: Mariana Crow Avicultural Support

2. Report Period: October 1, 2007 to March 31, 2009

Report due date: June 30, 2009

3. Location of work: Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X_ or Estimated ___**
Federal :_____	$43,000	$28,253.85
State		
Other:_____		
_____		
_____		
Total Federal	$43,000	$28,253.85
Total match		
Total project:	$43,000	$28,253.85

5. Objectives (list project objectives from grant proposal or grant agreement)

a. Artificially incubate, hatch, hand-rear and release backinto the wild up to nine eggs from nests on Guam.

b. Prevent imprinting by rearing aga with broodmates and mentor birds.

c. Maintain outdoor aviaries for crows.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

This grant provides all funding for aviculture support for the Mariana crow. This work is part of a larger undertaking to reestablish Mariana crows in northern Guam. Other grants, such as Office of Insular Affairs Brown Treesnake Control Grant and the Department of Defense Civil Engineering Environmental Section grant fund area-wide snake control measures and the installation of brown treesnake barriers on active Mariana crow nesting trees. Guam Wildlife Restoration Grant supports search and inventory of released crows.

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Zero eggs were pulled from the wild in FY08. Intensive crow searches from October to January revealed all crow missing with the exception of two males. Two non-releasable crows are maintained in captivity at DAWR.

This project was extended for six months for the sole purpose to allow the Government of Guam to withdraw indirect costs. No funds from this grant were spent on operational costs nor salaries during this extension.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

Due to only two males found in the wild, no crow eggs were reproduced. This resulted in lesser hours worked and funds spent on the project than anticipated.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:

Suzanne Medina, Wildlife Biologist III, 671-735-3985, medinas@guam.net

Final Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: E-2-11

Grant name: Endangered Species Section 6

Project number and name: Segment 9 Guam Endangered Species Recovery

Subproject and Job number and name: Subproject A: Avicultural Management for Rails, Kingfishers and Crows, Job 3: Captive Propagation of Guam Micronesian Kingfishers

2. Report Period: October 1, 2007 to March 31, 2009

Report due date: June 30, 2009

3. Location of work: Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X_ or Estimated ___**
Federal :_____	$44,000	$37,433.41
State		
Other:_____		
_____		
_____		
Total Federal	$44,000	$37,433.41
Total match		
Total project:	$44,000	$37,433.41

5. Objectives (list project objectives from grant proposal or grant agreement)

a. Transfer 2.3 (males:females) to GDAWR in FY08.

b. Reproduce at least one chick from three pairs in FY08.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

This grant provided the funds to captive breed Guam Micronesian kingfishers on Guam. Other funding was provided by 13 zoological facilities participating in the Micronesian Kingfisher Species Survival Plan (SSP). Each institution funds the husbandry efforts of maintaining and reproducing kingfishers at their respective facility.

The overall goal of this effort is to increase the captive Micronesian kingfisher population to sufficient numbers to begin reintroductions in snake-controlled areas on Guam.

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

0.2 (males:females) were transported to Guam in September and 1.1 (males:females) came in October from mainland zoos. Zero chicks were produced at our facility duration of this grant.

This project was extended for six months for the sole purpose to allow the Government of Guam to withdraw indirect costs. No funds from this grant were spent on operational costs nor salaries during this extension.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

DAWR's only female was paired with a male and produced three clutches of infertile eggs in FY08. She was placed with a second male in May and no clutches were produced by them. Two shipments of sihek arrived on Guam during the duration of this grant (two females in September and one male and one female in October) and were quarantined for three weeks each. This prevented any reproductive activities with the new females during the duration of this grant which resulted in fewer hours worked and funds spent on the project than anticipated.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:

Suzanne Medina, Wildlife Biologist III, 671-735-3985, medinas@guam.net

Final Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: E-2-11

Grant name: Endangered Species Section 6

Project number and name: Segment 9 Guam Endangered Species Recovery

Subproject and job number and name: Sub-Project B: Development of an Experimental Population of Guam Rails on Rota and Other Suitable Islands, Job 1: Establishment of Experimental Population of Guam Rails on Rota and Other Suitable Islands.

2. Report Period: October 1, 2007 to March 31, 2009

Report due date: June 30, 2009

3. Location of work: Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X_ or Estimated ___**
Federal :_____	$2,127.00	$7,110.59
State		
Other:_____		
_____		
_____		
Total Federal	$2,127.00	$7,110.59
Total match		
Total project:	$2,127.00	$7,110.59

5. Objectives (list project objectives from grant proposal or grant agreement)

a. Release at least 100 captive bred koko' on Rota. The ko'ko' should be genetically unimportant to the maintenance of the captive gene pool and in excess of numbers needed for maintaining the integrity of the captive populations.

b. Monitor survival, dispersal, reproduction and establishment of releasedrails through radio telemetry and surveys.

c. Identify and eliminate or control factors limiting establishment of rails in the wild on Rota, including trapping and removal of feral cats, monitor lizards, rats and other potential predators.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

We released a total of 95 rails on Rota this past fiscal year: January 2008=49 rails hard released, June 2008=31 rails hard released, August 2008=15 hard released.

To monitor survival, dispersal, reproduction and establishment of rails, 23 were released with transmitters during this fiscal year. Eleven instrumented rails were killed by cats, two died of unknown causes, seven went missing possibly due to transmitter failure, one dropped its transmitter and two died after transmitter entanglement. We calculated a total of 147 locations of released instrumented rails using GPS and mapping software.

Tomahawk live traps and Victor Oneida size 1.5 leg-hold traps baited with dried fish and shrimp paste were used to capture 18 cats and 15 monitor lizards in 5550 traps nights on Rota. Animals were dispatched using a 22-caliber air rifle.

This project was extended for six months for the sole purpose to allow the Government of Guam to withdraw indirect costs. No funds from this grant were spent on operational costs nor salaries during this extension.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

The objective of releasing 100 rails (95 released) was not met because there was not enough eligible individuals from the captive population. However, more funds were spent on salary costs for this project than anticipated, mostly due to the visitation of staff from various zoological facilities that participate in the Guam Rail SSP.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
Paul Wenninger, Wildlife Biologist II, 671-735- 3994, pwenninger@yahoo.com

ENDANGERED SPECIES
E-2-12
FY2009

Interim Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: E-2-12

Grant name: Endangered Species Section 6

Project number and name: Segment 9 Guam Endangered Species Recovery

Subproject and job number and name: Subproject A: Avicultural Management for Rails, Kingfishers and Crows, Job 1: Captive Propagation of Guam Rails

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X_ or Estimated___**
Federal :_____	$183,241.00	$170,370.36
State		
Other:_____		
_____		
_____		
Total Federal	$183,241.00	$170,370.36
Total match		
Total project:	$ 183,241.00	$170,370.36

5. Objectives:

a. Increase the number of actively breeding pairs of Guam rails at the GDAWR facilities until a maximum of 22 pairs is reached.

b. Produced at least five Guam rails from each pair of rails annually. (Full production potential of GDAWR will be an average of 110 rails annually.)

c. Maintain a minimum of 30 individual Guam rails at mainland zoo facilities for captive breeding.

d. Equalize founder representation and maintain the genetic diversity of the captive flock at 90% or higher.

e. Transfer three ko'ko' to mainland zoos, and 25 ko'ko' from zoos to the GDAWR facility every year to maintain genetic diversity within the captive population, as well as support the release program.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

This grant provided all funding for endangered Guam rail captive propagation on Guam. Other funding was provided by 17 US zoological facilities participating in the Guam Rail Species Survival Plan. Each institution funded the husbandry efforts of maintaining and reproducing rails at their respective facility.

The overall goal of this effort is to increase the captive Guam rail population to supply Guam rails for release into the wild. As the majority of the captive population is located on Guam, our institution is able to reproduce over 90% of rails produced annually.

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Fourteen pairs produced one hundred chicks that were banded and added to the captive flock in FY09 (average 7.14 chicks per pair). Nine deaths occurred at the facility: one from old age, one eight year old female with diabetes was euthanized as her quality of life had severely deteriorated, one died of necrotic toxicity from a partially formed egg that attached to her uterus and festered, two died of starvation, four unknown deaths. Sixty-five rails were transferred from Guam and hard released on Rota. Over 30 rails are held at mainland zoos for captive breeding. Genetic diversity ranged between 88% and 89% during FY09. No rails were transferred between Guam and the US mainland.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

The goal of creating 22 pairs was achieved as pairing was difficult. Genetic diversity below the desired goal of 90% is due to behavior difficulties within genetically compatible pairs as well. Rails were not transferred between Guam and the mainland as the Guam Rail Species Survival Plan Coordinator did not deem this necessary this fiscal year.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:

Suzanne Medina, Wildlife Biologist III, 671-735-3985, medinas@guam.net

Interim Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: E-2-12

Grant name: Endangered Species Section 6

Project number and name: Segment 9 Guam Endangered Species Recovery

Subproject and job number and name: Subproject A: Avicultural Management for Rails, Kingfishers and Crows, Job 2: Mariana Crow Avicultural Support

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	**Budgeted**	**Actual _X_ or Estimated___**
Federal :_____	$38,979.00	$24,853.78
State		
Other:_____		
_____		
_____		
Total Federal	$38,979.00	$24,853.78
Total match		
Total project:	$38,979.00	$24,853.78

5. Objectives (list project objectives from grant proposal or grant agreement)

a. Artificially incubate, hatch, hand-rear and release back into the wild up to nine eggs from nests on Guam.

b. Prevent imprinting by rearing aga with broodmates and mentor birds.

c. Maintain ten outdoor aviaries.

6. If the work in this grant was part of a larger undertaking with other components and

funding, present a brief overview of the larger activity and the role of this project.

This grant provides all funding for aviculture support for the Mariana crow. This work is part of a larger undertaking to reestablish Mariana crows in northern Guam. Other grants, such as Office of Insular Affairs Brown Treesnake Control Grant and the Department of Defense Civil Engineering Environmental Section grant fund area-wide snake control measures and the installation of brown treesnake barriers on active Mariana crow nesting trees. Guam Wildlife Restoration Grant W-1-R-17 supports search and inventory of released crows.

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Zero eggs were pulled from the wild in FY09. Intensive crow searches from October to January revealed two males. Breeding attempts with the male and female crows at the DAWR captive breeding facility were unsuccessful. After clinical exams with the project's veterinarian, the DAWR captive female was deemed infertile as an egg had ruptured in her uterus. The ten outdoor aviaries were maintained throughout the year.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

Due to only two males found in the wild, no crow eggs were reproduced. This resulted in lesser hours worked and funds spent on the project than anticipated.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
Suzanne Medina, Wildlife Biologist III, 671-735-3997, medinas@guam.net

Interim Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: E-2-12

Grant name: Endangered Species Section 6

Project number and name: Segment 9 Guam Endangered Species Recovery

Subproject and job number and name: Subproject A: Avicultural Management for Rails, Kingfishers and Crows, Job 3: Captive Propagation of Guam Micronesian Kingfishers

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [Extended to March 31, 2010]

3. Location of work: Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated".

Source	Budgeted	Actual _X_ or Estimated __
Federal :_____	$59,470.00	$26,880.46
State		
Other:_____		
_____		
_____		
Total Federal	$59,470.00	$26,880.46
Total match		
Total project:	$59,470.00	$26,880.46

5. Objectives (list project objectives from grant proposal or grant agreement)

a. Transfer 0.3 sihek from mainland zoos to the Guam facility.

b. Limit hand-rearing of sihek chicks by assisting parents in supplemental feeding of chicks in the nest.

c. Maintain captive sihek on Guam by feeding locally caught lizards as the main component to their diet.

6. If the work in this grant was part of a larger undertaking with other components and

funding, present a brief overview of the larger activity and the role of this project.

This grant provided the funds to captive breed Guam Micronesian kingfishers on Guam. Other funding was provided by 13 zoological facilities participating in the Micronesian Kingfisher Species Survival Plan (SSP). Each institution funds the husbandry efforts of maintaining and reproducing kingfishers at their respective facility.

The overall goal of this effort is to increase the captive Micronesian kingfisher population to sufficient numbers to begin reintroductions in snake-controlled areas on Guam.

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

One male and one female were transferred to Guam in October 2008 from US mainland zoos. Four pairs produced 20 eggs in 10 nesting attempts. Ten eggs were infertile, nine eggs hatched, and one embryo was killed by its sibling. Of those nine hatchings, only four chicks survived to be banded and added to the captive flock. Of the five chicks that did not survive, two were consumed by snakes, one fell out of the nest, and two disappeared. Supplemental feeding at the nest was performed with six of the nine hatchlings (all but one perished), three hatchlings were hand-reared, and one was parent reared. All three hand-reared chicks and the one parent-reared chick survived to fledge. Birds were fed a diet consisting of locally caught geckos and skinks as well as some crickets and mealworms.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

When the FY09 Section 6 proposals were written, DAWR requested the transfer of three females from the mainland zoo. Two females arrived in September 2008 and the remaining female arrived this October. DAWR also agreed to accept a male, which was shipped with the female in October.

Six hatchlings were supplemental fed at the nest and, unfortunately, only one fledged. Two the six were consumed by snakes, one fell out of the nest, and two disappeared from the nest. The final chick was supplemental fed by DAWR staff for the first few days after hatching but it was apparent that the parents were feeding the chick and DAWR's involvement ceased. Due to the high risk in losing the chick this fiscal year, DAWR staff decided to hand-rear the remaining chicks (three).

Of the ten infertile eggs, six eggs were from one male. In FY08, this male was paired with a different female which also resulted in infertile eggs. This male is 15 years old and is most likely senescent.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:

Suzanne Medina, Wildlife Biologist III, 671-735-3997, medinas@guam.net

Interim Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
FY 2009

1. State: Guam

Grant number: E-2-12

Grant name: Guam Endangered Species Recovery

Subproject and job number and name: Sub-Project B: Development of an Experimental Population of Guam Rails on Rota and Other Suitable Islands, Job 1: Establishment of Experimental Population of Guam Rails on Rota and Other Suitable Islands.

2. Report Period: October 1, 2008 to September 30, 2009

Report due date: December 31, 2009 [extended to March 31, 2010]

3. Location of work: Guam

4. Costs: Please identify sources of federal funds and match and indicate amounts budgeted and spent for each. Indicate if match is in-kind. Indicate in table whether costs are "Actual" or "Estimated"

Source	Budgeted	Actual ___or Estimated_X_
Federal :_____	$2,000.00	$815.00
State		
Other:_____		
_____		
_____		
Total Federal	$2,000.00	$815.00
Total match		
Total project:	$2,000.00	$815.00

5. Objectives (list project objectives from grant proposal or grant agreement)

a. Release at least 100 captive bred ko'ko' on Rota. The ko'ko' should be genetically unimportant to the maintenance of the captive gene pool and in excess of numbers needed for maintaining the integrity of the captive populations.

b. Monitor survival, dispersal, reproduction and establishment of released rails through radio telemetry and surveys.

c. Identify and eliminate or control factors limiting establishment of rails in the wild on Rota, including trapping and removal of feral cats, monitor lizards, rats and other potential predators.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

N/A

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

We hard released a total of 65 rails on Rota this past fiscal year: January 2009=15 rails, August 2009=50 rails.

To monitor survival, dispersal, reproduction and establishment of rails, 14 were released with transmitters during this fiscal year. The rails were tracked for 19 days, however, due to the resignation of the project biologist, tracking was not resumed until 45 days later. At that time, three birds were found alive, three birds were found dead (COD unknown), and the remaining signals were lost.

We used Tomahawk live traps and Victor Oneida size 1.5 leg-hold traps baited with dried fish and shrimp paste to capture 55 cats and one dog in 10,848 traps nights on Rota. Animals were dispatched using a 22-caliber air rifle.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs

We did not meet the objective of releasing 100 rails (95 released) because we lacked enough eligible individuals from our breeding population. Rails harnessed with transmitters were not monitored closely due to the sudden departure of the staff biologist.

9. List any publications or in-house reports resulting from this work.

N/A

Name, title, phone number, and e-mail address of person compiling this report:
Suzanne Medina, Wildlife Biologist III, 671-735-3985, medinas@guam.net

SAFE HARBOR AGREEMENT GRANT
E-3-SH
FY2009

Final Performance Report

Guam Division of Aquatic and Wildlife Resources, Department of Agriculture
2009

1. State: Guam

Grant number: E-3-SH

Grant name: Safe Harbor Agreement Grant

Project number and name: E-3-SH: Cocos Island Guam Rail Project

2. Report Period: June 21, 2000 to June 21, 2009

Report due date: June 29, 2009

3. Location of work: Guam

4. Costs:
The initial grant was awarded for $265,419 to prepare habitat on Talofofo Golf Course for the release of Guam rails. As of October 1, 2005, the project was modified to prepare habitat on Cocos Island for the release of Guam rails. Initial expenditures before project moved were $16,000 for rail cages completed in FY03 & FY04.

FY06 Original Budget – $130,000
FY07 Original Budget – $100,419
FY08 Original Budget - $19,000

Source	FY06 & prior Expenditures	FY07 Expenditures	FY08 Expenditures	FY09 Expenditures	Total Expenditures
Federal: $265,419 State: Other:	$21,639.71	$100,960.09	$58,115.76	$84,703.44	$265,419
Total Federal: $265,419 Total match:	$21,201	$124,290	$100,960.09		
Total project: $265,419	$21,201	$124,290	$100,960.09	$84,703.44	$265,419

5. Objectives:
FY06, FY07 & FY08 Objectives, as amended in August 2006, include the following:
Note: Notification of funding was October 19, 2005.

YEAR 1: FY06
1. Within three months of notification of funding, DAWR will develop and obtain signed memorandums of understanding (MOUs) that clarify management activities and responsibilities of DAWR, DPR and CIR with respect to the Cocos Island Guam Rail Project.

2. Within six months of signing the MOU, DAWR will develop a Safe Harbor Agreement in support of a section 10(a)(1)(A) Endangered Species Act permit between the U.S. Fish and Wildlife Service, Guam Division of Aquatic & Wildlife Resources, Guam Department of Parks and Recreation and Cocos Island Resort.

3. Within nine months of notification of funding, DAWR will submit a complete USFWS Endangered Species Act Permit application on behalf of DAWR, DPR and CIR.

4. Within six months of notification of funding, DAWR will contract USDA Wildlife Services to eradicate rodents on Cocos Island, including the completion of EPA (Section 18) and NEPA requirements for the use of rodenticide in a non-commensal area.

5. Within three months of notification of funding, Guam Forest and Soil Resources Division (FSRD) will complete a forest enhancement plan for Cocos Island to CIR for approval of management activities.

6. Within 12 months of notification of funding, FSRD will enhance the native forest on Cocos Island by removing invasive plant species and transplanting 100 native plant seedlings on Cocos Island.

7. Within 12 months of notification of funding, DAWR will purchase a boat, motor, trailer and safety equipment to facilitate the movement of staff and equipment from Guam to Cocos Island.

8. DAWR will provide a progress report on FY06 project activities.

YEAR 2: FY07
1. Within the six months prior to the release of captive-bred Guam rails, monitor lizards will be removed from Cocos Island until capture rates are at or near zero and monitor lizards are not observed during routine monitoring or management activities.

2. Following the eradication of rodents, DAWR will complete a three-month survey on Cocos Island to detect the presence of any incipient BTS population.

3. DAWR will release at least sixteen Guam rails and monitor survivorship, habitat preference and nesting success on Cocos Island.

4. During FY07 DAWR will purchase materials (eg. Signs, brochures) that promote Cocos Island bio-security protocols and wildlife management activities.

5. FSRD will maintain transplanted seedlings and monitor for invasive plant species.

6. DAWR will provide a progress report on FY07 project activities.

YEAR 3: FY08

1. DAWR will monitor survivorship, habitat preference and nesting success of Guam rails on Cocos Island.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.
The Cocos Island Guam Rail Project (Project) is a large project involving multiple agencies and funding sources. The goal of the Project is to prepare Cocos Island for the establishment of a breeding population of Guam rails. The objectives include the development of a Safe Harbor Agreement between landowners and USFWS, development and implementation of biosecurity protocols and awareness, native lizard survey, rodent eradication, monitor lizard reduction, snake detection survey, forest enhancement and the release and monitoring of Guam rails. The current estimated cost for the entire project is more than $700K, of which the Safe Harbor Grant provides $265K. Other funding sources include: 1) Office of Insular Affairs' Brown Treesnake Grant; 2) USFWS's Aquatic Nuisance Species Brown Treesnake Grant, State Wildlife Grant, Traditional Section 6 Endangered Species Grant, Wildlife Restoration Program Grant and Pacific Islands Coastal Program Grant; 3) US Forest Service Forest Stewardship Program Grant; 4) US Department of Agriculture's Natural Resource Conservation Service Wildlife Habitat Incentive Program (WHIP) Grant and Wildlife Services Guam Program; 5) Guam Agriculture; 6) RARE Pride, as well as 7) in-kind support from the Cocos Island Resort.

7. Describe how the objectives were met. See "Supplemental Information" for additional requirements and "Attachments" for specialized tables.

Accomplishments for Year 1: FY06 Objectives:

Objective one was completed in FY2006. Two Memorandum of Understandings (MOU) that clarified the management activities and responsibilities of DAWR and Cocos Island Resort with respect to the Cocos Island Guam Rail Project were signed. The MOU between DAWR and Department of Parks and Recreation was signed on December 23, 2005; the MOU between DAWR and Cocos Island Resort was signed on January 8, 2006.

Objective two was completed in FY2009. The USFWS completed the NEPA process for the

issuance of a Section 10 permit. The permit #TE-174228-0 was issued September 24, 2008 and received by Guam Agriculture April 30, 2009. The Safe Harbor Agreement (SHA) was signed in FY09 by representatives from the USFWS, Guam Department of Agriculture, Guam Department of Parks and Recreation and Cocos Island Resort.

Objective three was reported completed in FY07. DAWR submitted a complete Endangered Species Act Permit Application on behalf of DAWR, DPR and CIR. The application process awaited the completion of NEPA requirements associated with the signing of the SHA. Objectives two and three are inter-related and one could not be completed without the other.

Objective four was completed in FY08. The Rodent Eradication MOU was completed and preparation work began for the eradication, including the necessary NEPA documentation. The start date for the eradication was pushed back due to the timing of the NEPA process and the unusually wet dry-season of 2008. The application of bait occurred in March 2009 and coincided with the dry season, when rodents are stressed and crab activity is reduced (less uptake of bait by crabs). As of June 2009, surveillance measures indicate no sign of rodents; complete eradication will not be declared until two years of surveillance are completed with no detections of rodents.

Objective five was completed. The CIR signed on with the Forest Stewardship Program.

Objective six was accomplished and the forest enhancement effort continues. During the FY08 wet season (Oct/Nov/Dec 2007) Guam Forestry and Soil Resources (FSR) thinned and pruned 1/2 acre of gagu (*Casuarina equisetifolia*), cleared 1/8 acre of invasive shrubs and vines and planted 220 native seedlings within ¼ acre on Cocos Island. The native tree seedling plantings included, 38 panao, 26 pahong, 30 hunik, 23 niyoron**,** 17 kafu, 30 nigas**,** 21 nanaso, 10 tangan tangan, 5 nonak, 15 ifit and 5 dukduk.

In addition to these plantings, FSR provided 31 native seedlings to Unitek to plant on Cocos Island. Unitek is a local company that was contracted by US Coast Guam to conduct a PCB cleanup on Cocos Island and the plantings were part of the restoration. The trees planted by Unitek included 10 kafu, 5 panao, 5 nonak, 5 niyoron, 5 pagot and 1 tangan tangan.

In FY09 FSR provided maintenance care on two occasions for planted seedling (i.e. weeding, clearing, etc.).

During the FY09 wet season (Oct/Nov/Dec 2008) FSR planted 200 native seedlings within four acres on Cocos Island. FSR planted 20 hunik, 20 niyoron, 20 pahong, 20 Kafu and 20 Nonak. The additional 100 seedlings were planted with the assistance of University of Guam student volunteers; the effort included 10 hunik, 10 panao, 10 niyoron, 20 nonak, 20 dokdok, 20 kafu and 20 pahong.

In addition to FSR's forestry enhancement efforts, a private maintenance company (Maids to Order) provided removed invasive vines and herbs from 18 acres of Cocos Island using hand tools and herbicide. US Department of Agriculture, Natural Resource Conservation Service provided funding for the forest enhancement effort through the Wildlife Habitat Incentive

Program (WHIP); the funding and effort will continue through 2011. Guam Agriculture initiated discussions with the Cocos Island Resort regarding the application for another WHIP project to continue forestry enhancement activities on the private side of the island. Note: The original Safe Harbor Agreement Grant budget for forest enhancement activities was spent on a boat purchase. See next objective.

Objective seven was completed in FY2007. The boat and safety supplies were purchased and used in implementing forest enhancement activities on Cocos Island in FY2008.

Objective eight was completed in September 2006; an Interim Performance Report was submitted to USFWS.

Accomplishments for Year 2: FY07 Objectives:

The FY07 Objectives one, two and three were not completed due to the delay in the rodent eradication. Planning and implementation for the monitor removals, snake survey and rail release are currently underway and funded by other grants. As of June 25, 2009 over forty monitor lizards have been removed from Cocos Island. The BTS survey is planned for FY10. Twenty new radios were purchased and six radios refurbished under the Safe Harbor Grant in preparation for the release and tracking of Guam rails on Cocos Island.

Objective four was completed and will be used in a long-term social marketing campaign in support of the Ko'ko' for Cocos Project. A Rare Pride social marketing campaign, entitled "Go Native", was planned and initiated during FY08. The Rare Pride methodology was used to elicit behavior changes that support native wildlife restoration on Guam. The basic concept is to establish among Guam residents a pride in native species and inform them of how they can help their recovery.

Within the Go Native campaign there was a sub-campaign entitled "Ko'ko' for Cocos". Ko'ko' for Cocos was the main campaign providing information regarding the Ko'ko' for Cocos Project and the biosecurity protocols necessary to ensure successful restoration of Guam rails. A ko'ko' character (Che'lu which means brother/sister in Chamorro) was created and a logo was designed. The "Chel'lu" character was used in the promotional materials as well as the design and purchase of a costume so that Che'lu could make public and media appearances that included such events as Earth Day and Movies in the Park.

The collateral materials produced and purchased under the grant include: 975 Ko'ko' for Cocos T-shirts (adult and kid sizes); 2,000 round celluloid buttons; 3000 tattoos; 5000 pencils; 2000 magnets; four ko'ko' crossing signs; 5000 stickers; 500 hats; 500 floating key chains; three brochures; 7500 bumper stickers; 1000 drink coozies; extensive decals on a vehicle; and, a webpage (including one year of maintenance). These materials were distributed in conjunction with 72 school presentations as well as public events, such as University of Guam's Charter Day activities and Guam's Chamorro Month activities.

The purchase of media materials objective was also supported by other funds. The additional materials include: four typhoon-proof signs to be placed on Cocos Island and the Merizo public

pier; 10,000 celluloid buttons, 600 coloring books, 1000 bookmarks, two banners, and electronic billboards/slides/advertisements at busy intersections, malls, restaurants, movie theaters, and cable television. A song created by school children will also be used to create pride in native species.

In addition, much effort was put into cultivating synergistic partnerships with Guam Animals in Need and Guam Visitor's Bureau and garnering positive press in the media. The objectives of the campaign was heralded in: four radio shows; nine news articles (three were self-authored); two social networking sites; four civic or industry specific presentations, two Cocos Island visits; and ten television interviews.

Objective 5 was completed as described under Objective 6 of FY06.

Objective 6 was completed with the submission of Interim Performance Reports to USFWS.

Accomplishments for Year 3: FY08 Objectives:

FY2008 objectives were not completed. However, under other funding sources the rail release on Cocos Island is slated for October 2009 and monitoring will follow.

8. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds; include differences between expected and actual costs.

There were no differences between expected and actual costs for the overall grant; however, the timeline was extended and spending among objectives was modified as other sources of funding were obtained for the overall project. An amendment to extend the grant to March 2009 was submitted and approved by USFWS.

9. List any publications or in-house reports resulting from this work.
DAWR Annual Report.

Name, title, phone number, and e-mail address of person compiling this report:
Diane Vice, Wildlife Biologist III, 671-735-3990, dianevice@gmail.com
Cheryl Calaustro, Wildlife Biologist III, 671-735-3957, ccalaustro@gmail.com

Attachments:

Che'lu, the Ko'ko' mascot, has been spotted at Cocos Island and other public events.

Collateral materials, such as pencils, help to reinforce messages taught at school visits.

Our weather-proof stickers were popular with kids and adults alike.

The website "Ko'ko' for Cocos" is advertised on drink coozies, which the Cocos Island staff enjoys.